

THE

# Soybean Digest



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*Official Publication*

OF

THE AMERICAN SOYBEAN ASSOCIATION

VOLUME 4 • NUMBER 7



MAY • 1944



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# THE Soybean Digest

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Publishers' Representatives: Ewing-Hutchinson Co., Chicago

Vol. 4

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No. 7

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### Margarine From Domestic Oils

Oil from high grade soybeans has an appealing golden yellow color. Yet existing legal restrictions force margarine made from this oil to be sold as an insipid looking, unattractive white fat to which the housewife must add coloring matter. The natural yellow color must be bleached from soybeans before it can be used. Then if the natural color is added again a 10 cent per pound tax is assessed.

Bleaching does not improve the oil. If anything, it destroys food value. Previous to 1931 at least one margarine manufacturer marketed an exceptionally high grade product which utilized the natural color of soybean oil as coloring matter, thus eliminating the necessity of bleaching and again adding coloring after purchase.

The Brigham bill of 1931 stopped such manufacture when it imposed the 10 cent tax on all colored margarine, whether naturally or artificially colored.

As reported last month on this page, Senator Ellison D. Smith has introduced a new margarine bill and referred it to the Senate committee on agriculture and forestry. It is known as S. 1744. The soybean industry has been asked to support this bill. That request makes it desirable to state again the position of the American Soybean Association, so that there will be no misunderstanding within the industry, or with the margarine people.

1. The 1943 convention authorized American Soybean Association support of all bills designed to protect our markets for domestically produced fats and oils.

2. Support was given H. R. 2400, since tabled, by sending two representatives (D. G. Wing and Howard L. Roach) to Washington in October to testify on the domestic phases of the bill.

3. The American Soybean Association does not propose to become party to support of any bill which will encourage competition from cheap tropical oils when they again become available, whether sponsored by the margarine industry or any other group.

4. S. 1774 as it now stands does not specify domestic fats. Only when this bill is placed on a domestic fats basis can we concur in its support.

5. Dairy propaganda is now directed almost entirely at the yellow color of margarine, the argument being that

yellow belongs to butter by prior right. The fallacy of this argument lies in the fact that during the greater part of the year butter is also artificially colored. That fact should be made widely known.

6. Pure, naturally yellow margarine made from domestically grown fats would have great sales appeal — and would receive unlimited support from the soybean industry. Congressional support from Southern and Midwest states for such a product could be secured. We suggest that a bill permitting such manufacture be introduced as a trial balloon by which to judge future steps.

### Soybeans and the Soil

A lesson can be drawn from the phenomenal sale of *Plowman's Folly*, a book which would solve most of our soil problems by ceasing to plow. It indicates how deeply the problem of saving our soils from further depletion has penetrated into the consciousness of at least part of the public.

The problem is pushed somewhat into the background at the moment by the urgency of allout production. But soil conservation is bound to be one of the postwar questions uppermost in our thinking. Soybeans like other crops will have to learn to live with the land if they are to survive permanently.

Much is still to be learned, but from present knowledge it can be concluded that soybeans have a definite place in soil conservation programs. As was stated by Dwight D. Smith in these pages, "Soil conservation is not inimical to increased soybean production for grain, but rather it is the very essence of it."

It is suggested:

1. Whether or not soybeans are conducive to erosion depends on how they are handled. Missouri experiments indicate that if they are drilled closely in rows they produce little more erosion than small grain and clover.

2. An Iowa suggestion is the best way to accommodate soybeans in rotations is by lengthening them. A Missouri recommendation is that soybeans replace corn on rolling land, and that they follow the sod crop.

3. Soil conservation practices such as contouring and terracing on rolling land with cover crops following beans in the fall will increase yields and cut soil losses.

4. Proper utilization of the crop is necessary if soybeans are to make their maximum contribution as soil builders. This includes plowing under the residues and feeding the oil meal to livestock on the farm. The use of protein concentrates is not only a profitable feeding operation. It is a soil builder as well, since increased supplies of nitrogen go back into the soil through the manure.

It is true that soybeans present certain new soil problems. But indications are that they are problems that can be solved beneficially if the present programs of research are kept up.

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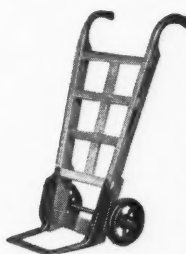
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# IMPORTANCE of PROTEINS *In Relief Feeding*

● The problem of relief feeding abroad will be one of mass treatment of starvation. Soy proteins will play a stellar role in this mass feeding. Dr. Cannon is a leading research figure in the field of proteins. He is head of the department of pathology, University of Chicago, and president of the American Association of Pathologists and Bacteriologists. This speech was given at the recent Food Forum dinner in Washington, D. C.



By PAUL R. CANNON, M.D.

IN THE FEW minutes allotted to me I wish to emphasize the indispensable role of proteins in the program of relief feeding. I do so because I believe there is a real danger that we may make the tragic mistake of minimizing their vital importance. For now that our once bulging granaries are shrinking and our livestock populations declining it is obvious that our surplus foodstocks cannot meet all the demands to be made upon them. If we must curtail certain activities of our relief feeding program it becomes particularly important that we select foodstuffs which are essential and of the highest nutritional value and accord to them a priority commensurate with the most urgent dietary needs.

Certainly in the earlier phases of relief feeding, as our armies are entering devastated cities filled with starving refugees, the problem will be more than just the sup-

plying of calories and vitamins to hungry people, or, as some so lightly put it, of giving them plenty of good "energy foods." Rather it will be in many areas a complicated medical problem of mass treatment of starvation. The word "starve" comes from the word "sterven" meaning "to die"; and starvation is a disease, indeed it is probably the most widespread and lethal disease in the world today. Furthermore, food, that is, the right kind of food, is its only cure. This is true because the process of starvation leads inexorably to the gradual loss of the bodily reserves of carbohydrate, protein, fat, minerals, and vitamins; moreover, although all these food constituents must be replaced, it is the *proteins* in particular which are indispensable for the reconstruction of the starving victims' very flesh and blood. In other words, shrunken tissues and depleted bone marrows can be restored to their original integrity only through the intermediation of *good proteins*, acting in conjunction with the other essential dietary elements.

The protein requirements of a starving individual are vastly different from those of a normal one. For unless a starving person obtains the right kinds of proteins and in adequate amounts, together with vitamins, minerals, fats and carbohydrates, he cannot rebuild his wasted organs and again make possible the normal fabrication of blood and tissue constituents essential for resistance against infection. This includes the leukocytes, red blood cells, protective epithelia, hormones, digestive enzymes, and, in particular, the specific antibodies. But if starvation continues the victim steadily loses weight and strength and resistance to infectious agents, until, ultimately, death from an intercurrent infection brings the downhill process to an end. These untoward consequences of severe undernutrition and protein deprivation help to explain the long-known fact of the sinister relationship between war, famine and accompanying pestilence. That the present war is no exception is shown by the rising death rates from tuberculosis and other infectious and deficiency diseases in all the occupied and war-disrupted countries. Despite the recent statements of competent observers that agricultural conditions throughout Europe as a whole have not deteriorated as generally as might have been expected, we surely have no reason to assume that nutritional conditions will improve as the Germans withdraw for their last desperate stand, leaving behind in many a gutted city the helpless,

starving victims of their well-known ruthlessness.

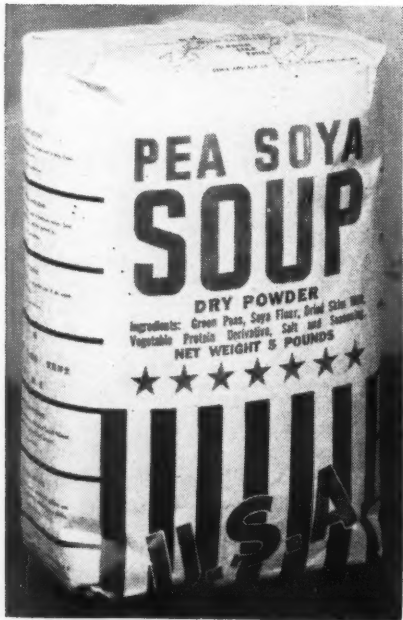
In relief operations, therefore, the proteins must receive a high priority, not only because of their nutritional significance as such, but because many of them also contain important minerals and vitamins, notably phosphorus, iron, niacin, thiamin, and riboflavin, to mention but a few. Among the proteins as a class those of animal origin stand supreme, particularly milk solids, meat, fish, fowl, eggs and cheese. But because these foods are both expensive and in short supply, their immediate usefulness, unfortunately, will be somewhat restricted; and for relief needs, vegetable proteins must necessarily be utilized. But whether proteins may come from animal or vegetable sources, they now assume a nutritional significance not manifested in normal times.

The ability of various kinds of proteins to repair the ravages of protein starvation depends upon their chemical structure. Some proteins are better nutriment than others because of their greater chemical completeness. Proteins are composed of different combinations of so-called "building stones," known chemically as amino acids. Of the 20 odd amino acids which in varying amounts and proportions help to make up the myriads of protein molecules, there are eight in particular which, for man, are termed "essential"; that is, these eight amino acids cannot be synthesized in the human body but must be obtained preformed in the food. Unless they are present in the daily diet or are stored in the bodily reserves, protein metabolism cannot function normally. The *high quality* proteins, if taken in adequate amounts, supply sufficient quantities of these essential amino acids; the incomplete proteins do not. Furthermore if principally the latter types are fed to a starving person the wasted tissues cannot be rebuilt nor can enzymes be effectively fabricated any more than can a brick house be built without an adequate supply of the right kinds of bricks. Above all other foods, therefore, relief rations should contain a rich allotment of the essential amino acids as they occur naturally in high quality proteins.

Of all the vegetable protein foods available to help compensate for the animal protein deficits the soybean seems to be the most promising, both with respect to biological quality, availability, and low cost. It must, accordingly, be called upon to help correct the protein deficiencies of our over-

This 5-pound package of pea  
soya soup powder is part of  
War Food Administration's  
reserve food stock for war purposes.

— Photo War Food Administration





processed wheat and corn flours from which relief soups, breads, spaghetti, macaroni, and polenta are to be made. For despite the recent enrichment of white flour with thiamin, niacin, riboflavin and iron, the flour itself, partially because of milling losses, is still deficient in first class protein. However, experiments have shown that further enrichment with high quality proteins makes the resulting flour blend adequate for normal growth of young animals as well as for recovery of starved animals from the adverse effects of severe protein undernutrition. In fact, skim milk powder, soybean flour, peanut and cotton seed flours and corn germ all can increase the protein value of white flour considerably. It would seem obvious, therefore, that a first step in relief feeding might be the planning on a large scale of rations composed primarily of enriched white flour appropriately blended with high quality proteins.

These few remarks are directed at but a small phase of the relief program as a whole, and are pointed, in fact mainly to the emergency period of military control during which simple types of diets will be necessary and facilities for food processing presumably will be minimal. With a prefabricated basic foodstuff available for supplementation by a fair variety of local foods, even seriously starved persons could be put upon a type of convalescent diet which would help to get them quickly out of the danger zone of severe protein undernutrition. But unless we can supply them with proteins of *good quality* our road through the reconquered countries will be paved too largely with ineffective although good intentions. In planning for relief feeding, therefore, we might keep in mind the old saying which is now particularly apropos: "It's not just fish we're buying, it's men's lives."

## W. G. CAMPBELL RETIRES FROM FOOD AND DRUG

Official announcement has been made by Paul V. McNutt of the retirement of Commissioner W. G. Campbell of Food and Drug Administration. The announcement states that Campbell was leaving under the voluntary provision of the Retirement Act. Campbell had been connected with Food and Drug law enforcement operations since the government began to regulate inter-state commerce 37 years ago. When Food and Drug Administration was transferred from the Department of Agriculture to Federal Security Agency in 1940, Campbell was designated as Commissioner of Food and Drug Administration. He was largely instrumental in presenting the facts that led to the enactment of the Federal Food, Drug, and Cosmetic Act of 1938.

Members of the soybean industry came into forceful contact with Campbell last summer when the Food and Drug Administration ruled that the amount of soy flour which could be used in white bread should not exceed one-half of one percent.

When the American Soybean Association protested the ruling, Campbell replied that he was bound by requirements laid down by Congress. However, the Federal Security Agency later postponed action indefinitely on the proposed bread standards which would have so limited the usage of soy flour.

Members of the industry have expressed the hope that Campbell's successor will have a more progressive viewpoint.

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## BEANS DESERVE GOOD TREATMENT

Continuous rainy weather has delayed seeding of spring grains to the extent that soybeans may be grown in many fields originally scheduled for oats. However, fertilizers which were intended to be applied for the oats need not go begging but can be used to advantage with soybeans, according to L. B. Miller, assistant chief in soil experiment fields, University of Illinois College of Agriculture.

In general, oats and the other small grain crops are more responsive to direct fertilization than are soybeans. This greater immediate return offered by the grains plus the fact that they often serve as nurse crops for legume and grass seedings, which are also very responsive, makes grain fertilization especially valuable.

"Inoculated soybeans can get a fairly large portion of their nitrogen from the air, but they have high requirements for mineral nutrients," Miller says. "Chemical analyses show a 30-bushel crop of beans removes almost as much phosphorus, twice as much potassium and five times as much lime as an 80-bushel corn crop. Soybeans have a remarkable ability to get these mineral nutrients and produce fairly good yields on soil too poor to produce satisfactory yields of most other crops. For this reason they have been said to do well at 'second table' — that is to get along on the nutrients remaining after a fertilized crop of corn or grain has been grown. This may be true if the first table was 'well provided' but should not be expected if nutrients for the first crop were meager. It is unfortunate when a nurse crop with its legume seeding is omitted from the rotation, and doubly so if by its omission the application of deficient soil minerals is neglected."

Filling up the hold of a British ship with food products grown and processed in the United States.

— USDA Photo by Forsythe



## PUBLICATIONS



FOOD FORUM, A FIRST REPORT, 32 pages, issued by Food Forum, 56 E. Walton Place, Chicago 11, Ill.

The booklet contains summaries of speeches delivered at the Forum's March 16th dinner in Washington, D. C., a description of the food situation in Europe, an analysis of the relationship between malnutrition and disease, data on new foods developed for relief use, and preliminary reports of laboratory tests of various relief rations.

Illustrating the ravages of hunger in Europe, the Report declares that less than one of each 20 children born in Greece since 1941 is alive today. Throughout Europe there has been a rapid increase in the toll taken by diphtheria, tuberculosis and other diseases, it asserts. Much of this is ascribed to protein deficiency, rather than to a general food shortage; the Report cites Dr. Paul R. Cannon's recent work showing the close relationship between protein intake and the ability of the body to resist infection. Other work by Dr. Cannon, D. Breese Jones and J. L. Gabby is presented to show the marked difference in growth, growth recovery and blood protein regeneration ob-

tained by feeding proteins of different qualities.

The Report concludes that milk and meat proteins, the most desirable, will not be available in sufficient quantities, but that they can be effectively supplemented by high-quality vegetable proteins, such as soybeans and peanuts. New foods, such as soups, cereal and stews, based on vegetable protein, have been developed by the food industry and War Food Administration. The Report describes a new relief ration, which provides all essential food factors in palatable form at a cost of 13½ cents per adult per day.

Food Forum is sponsored by a group of smaller food companies, and is "a meeting place" for all people interested in the problem of better feeding.

— s b d —

Sweetness is an important point of excellence in green soybeans just as it is in green peas and lima beans. Total sugars of green soybeans begin to diminish immediately after harvesting, although loss of a sweet taste does not become pronounced for about 24 hours.

# THE MISSOURI PROGRAM

## Soybean Production Built on Soil Fertility

● *Mr. Klemme, who is extension specialist in soils at the Missouri College of Agriculture, reports on the Missouri soybean yield contests, the first one of which was held in 1943. The extension service and the Alton Railroad are cooperating in sponsoring another program in 1944.*

By A. W. KLEMME

**I**N ORDER to demonstrate the necessity of selecting fertile soils — or soils made highly productive by soil treatments — and of following other practices essential for higher acre yields of soybeans for war production, the Missouri Agricultural Extension Service cooperated with the Alton Railroad to sponsor a soybean program in seven Missouri counties in 1943.

About 100 farmers enrolled in the program. However, because of floods and other weather hazards a number were unable to complete and obtain records. This program was divided into two classes — A and B.

### UNTREATED CHECK STRIPS IN CLASS A

Class A was for farmers who were just starting a soil improvement program of liming, use of fertilizers, and the growing of legumes. In this class farmers left a check strip in a representative part of a field of five acres or more without soil treatments and treated the remainder of the field. Yield records were obtained from each area.

An award of a \$25.00 war bond was offered to a farmer in each county who obtained the highest percentage increase in yield per acre of U. S. No. 2 soybeans on the treated part of the field over the untreated check strip. The war bonds were made available by the Alton Railroad through their agricultural and livestock agent, A. F. Stephens of Kansas City.

Class B was established for farmers who had fertile soil or who had made their soil highly productive through the use of previous soil treatments. A like award was also made in this class to the farmer who obtained on five acres or more the highest yield per acre of the above grade of soybeans.

The farmers agreed to carry out practices suggested by the college of agriculture for increasing the seed yields of this crop formerly considered mainly of hay values, as follows:

1. Select fertile, level to gently rolling fields well supplied with lime, other minerals and in decaying organic matter.

2. Use lime and commercial fertilizers



Harry Plattner, Malta Bend, Saline County, state winner of the Missouri soybean production program in 1943. His yield, 32.5 bu. per acre.

where needed to supply calcium, phosphate and potash.

3. Prepare mellow, weed-free seedbed by plowing or disking early so as to kill two or three crops of weeds and have a sufficient supply of available plant food for the rapid growth of the young soybean seedling.

4. Inoculate seed with soybean bacteria unless beans showing a heavy set of nodules grew on the field within the preceding year or two so that atmospheric nitrogen can be used.

5. In central Missouri, choose from the varieties Boone, Chief, Scioto, and McCoupin, or for late planting Illini or Dunfield.

6. Plant May 10 to June 1 in central Missouri — 1 to 2 inches deep — about 30 to 40 pounds per acre of high testing seed in rows 36 to 42 inches wide or slightly closer if the cultivating equipment available permits. Drilling solid at the rate of 1 to 1½ bushels per acre is reasonably safe only on fertile soil and where weeds have been thoroughly eradicated before planting.

7. On sloping fields plant on the contour.

8. Cultivate with harrow or rotary hoe before beans come up if crust forms. Continue such cultivation until beans reach 4 to 6 inches in height. Subsequent cultivation should be shallow and frequent enough to control weeds until the plants are large enough to check further weed spread.

9. Harvest when mature (14 percent or less moisture in seed).

10. Seed small grain on sloping land after beans are harvested to check leaching and erosion.

### GOOD YIELDS FROM BETTER SOIL TREATMENTS

Top yields of all entries were 32.5 bushels per acre in Class B. This honor went to Harry Plattner of Malta Bend, Saline County. Mr. Plattner grew his crop on the gently rolling fertile dark colored soils on his farm. He used the Illini variety. Second place in the program went to Campbell Edwards of Cairo, Randolph County, with 27.2 bushels as compared to an average yield of 14 bushels for his county. Mr. Edwards' farm is on the light colored soil of north-east Missouri. The variety grown was Illini. The field consisted of 11.6 acres which had been previously limed and grew red clover in 1942. The soybeans were planted July 3 and harvested with a combine October 12.

Other winners in this class were: Eugene Borgman of Wellington, Lafayette County, with 23.4 bushels per acre. He plowed his ground in early spring, applied 200 pounds per acre of a 4-12-4 fertilizer and drilled on the contour inoculated Illini soybeans at the rate of 1½ bushels per acre on May 24. The field was in clover in 1941 and corn in 1942. O. R. Warford, Fayette, Howard



County, produced 19 bushels per acre. Charles Davenport, Centralia, Audrain County, produced 23.4 bushels per acre. He used 200 pounds of 0-14-7 fertilizer per acre on a field that had been plowed out of sod in 1941. He used the Chief variety and planted them in rows. Averil Beshears of Vandalia, Ralls County, produced 19.7 bushels per acre of McCoupin, planted in rows

ties records from 10 different growers where a soil improvement program such as the use of lime and fertilizer and the growing of legumes in the rotation had been in operation for some time an average yield of 20.6 bushels per acre were obtained. On the dark colored soils in Lafayette, Saline and Howard Counties the average yield of 12 growers was 18.8 bushels per acre.



Effects of fertilizers on growth of soybeans on gray prairie soil. Unfertilized 19.6 bu. per acre. Fertilized with 200 lbs. 0-20-10 26 bu. per acre. Both areas well supplied with lime.

34 inches apart at the rate of 35 pounds per acre on July 2.

The county winners of war bonds in Class A were: Sherman Fowler, Vandalia, Ralls County. He plowed under 200 pounds of 0-20-0 per acre and by so doing increased his yields of McCoupins from 7.8 bushels to 16 bushels per acre. The seed on both areas was inoculated and given the same cultivation.

A. P. Yager of Thompson, Audrain County, obtained only 3.2 bushels per acre on the unfertilized check strip and 11.3 bushels where he plowed under 3 tons of limestone per acre and used inoculation. He grew the McCoupin variety. On Mr. Thompson's farm the application has made it possible for him at least to break even economically, while without this treatment the production of the crop would have resulted in little or no economical returns for labor, equipment and land.

A. E. Hubbard of Clark, Randolph County, increased his yield of soybeans with an application of 200 pounds of 0-14-7 from 8.6 to 11.3 bushels per acre. Mr. Hubbard grew the Illini. He stated that the soybeans from the fertilized part of the field were more mature and had a lower moisture content at harvest time than those from the unfertilized part of the field.

Ernest Starke of Higginsville, Lafayette County, obtained 19 bushels per acre where he plowed under 2 tons of limestone and drilled in 171 pounds of 0-20-0 when beans were planted, and 15.9 bushels per acre on the untreated part.

#### SOYBEANS RESPOND TO SOIL IMPROVEMENT

The reports from eight different growers on the gray prairie soils of Randolph, Audrain and Ralls County show an average increase of 4.4 bushels per acre for treated land. The untreated check strips yielded 11.7 bushels of soybeans per acre as compared to an average yield of 16.2 bushels where soil treatments were used immediately ahead of planting. In the same coun-

Due to the wet spring most beans were planted in late June or early July. In most cases, adapted varieties, inoculation and other approved practices were used. Because of the wet spring and shortage of labor, weeds reduced the yields of some of the cooperators very materially.

*The results obtained by these farms, which are substantiated by experimental work of the department of soils of the Missouri College of Agriculture, show that ample soil fertility is one of the first essentials for satisfactory yields of soybean seed.*

The need of soil well supplied with organic matter and minerals for soybeans is

#### MISSOURI YIELD PROGRAM IN 1944

*A soybean yield program similar to that of 1943 will be carried on in 1944. The Alton Railroad will again offer \$25.00 war bonds to the county winner in each class.*

*County agents in these seven counties are expecting several hundred farmers to enroll in the program, that aims not only to provide wartime essentials, but at the same time to restore fertility and strengthen the nation's future producing power which, after all, is the fertility of the soil.*

*In addition, the use of soil treatments and other essential practices which increase acre yields will result in higher cash returns for labor, land, and equipment.*

indicated by the amount of nutrients that the soil must deliver to the soybean plant to grow a 25 bushel crop of soybean seed. Top, roots and seed require approximately as much nitrogen, phosphate, potash, and lime as a 100 bushel corn crop. No one expects to grow such a corn crop except on fertile soil. When the soybean is inoculated with the soybean bacteria and the soil well supplied with lime, phosphate and potash and other minerals, it can obtain approximately two-thirds of its nitrogen from the atmosphere. The remaining one-third of the nitrogen and all of the minerals must come from the soil. If the plant is not inoculated it must obtain all of its nitrogen from the soil. Few Missouri soils can deliver this amount of nitrogen. Therefore, it is always a good practice to inoculate the seed unless inoculated soybeans have grown on the land in the past year or so.

By planting the crop on soils well supplied with lime and other minerals the legume bacteria will be more efficient. Early seed preparation and the killing of as many weeds as possible before planting not only conserves plant food and moisture for the crop but also aerates the soil and speeds up the bacterial, chemical and physical activity of the soil, and thus increases the supply of available nutrients. This hastens the growth of the young soybean seedling enabling it to better compete with weeds. Adapted varieties can use soil fertility more efficiently than non-adapted varieties.

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## ILLINOIS AND IOWA CONTESTS

The 1944 Soybean Yield Contests have been announced by the Illinois Crop Improvement Association and the Iowa Corn and Small Grain Growers Association for their respective states.

In Illinois the contest will be on 10 acres, in Iowa 5 acres, as in the past.

Substantial inducements are being offered to entrants, as in the past. The Iowa awards total \$145 for the first 10 place winners. The John Sand trophy is being awarded to the state winner for the third time this year. In addition there will be prizes for winners of local contests.

Appropriate and useful prizes are also being awarded to the Illinois contest winners. Illinois is making its awards on a regional basis for the first time this year, as is done in that state's corn yield contest. The state is divided into five regions, and each entrant will compete with the other contestants in his region of the state, rather than with those all over the state.

Contoured fields are acceptable in the Illinois contest.

Those interested in entering the Illinois or Iowa contest should write:

#### Illinois

Illinois Crop Improvement Association  
Urbana-Lincoln Hotel  
Urbana, Ill.

#### Iowa

Joe L. Robinson, Secretary  
Iowa Corn and Small Grain Growers Association  
Ames, Iowa

Deadlines for entries are June 1 for Illinois and July 1 for Iowa.



# Progress versus Heartaches

By WHITNEY EASTMAN

**T**REMENDOUS progress will be made in the soybean industry in the post-war period, but this period of progress in the industry will be accompanied by many heartaches. There will be heartaches for those who guess wrong or who have not laid by for a rainy day, and there will be golden opportunities and just rewards for others who have the "know how" and have the courage and the resources to take advantage of opportunities as they occur.

While there should be marked progress in the breeding and production of improved varieties of soybeans for special classified uses, the notable changes in the industry will take place in the fields of scientific development, processing and distribution.

The vegetable oil processing industry is one of the oldest industries in the United States, dating back to colonial times. The industry, taken as a whole, has operated for over a century by empirical methods based largely on the experience of a previous generation.

What technological advances have been made have taken place very largely outside the industry itself or have been transplanted from Europe. Very little attention has been given to scientific research within the industry except in very recent years. The industry has been nurtured and protected by a high import tariff barrier to foster and expand domestic oilseed crops, but relatively little progress has been made by vegetable oil processors in reducing conversion costs, developing more efficient processes, and reducing distribution expense. The processing industry owes it to the oilseed crop producers and the consuming public to develop more efficient conversion processes so as to be prepared to meet foreign competition under lower tariff protection when that day comes.

The trend in horizontal expansion in American industry in recent years has brought its full impact upon the vegetable oil processing industry. This movement has gained tremendous momentum in all segments of the industry in the last decade.

## TENDENCY TO CONTROL

The tendency is for the processor to control the two principal products of the vegetable oil processing industry; i.e., vegetable oil and protein concentrates, for use in the manufacture of products which are marketed direct to consumers. This trend toward the control of the vegetable oils and protein concentrates has resulted in greatly reduced quantities of these commodities being offered for sale as such in the open market. In order to justify this trend to our growers and consumers, tremendous economies in conversion and distribution methods will have to be developed.

The vegetable oil industry, taken as a whole, is one of the vital industries in our

• *A straight-from-the-shoulder account of what the soybean industry may expect after the war: tremendous progress — with major adjustments. Mr. Eastman is president of the vegetable oil and protein division of General Mills, Inc., and formerly vice president of Archer-Daniels-Midland Co., in charge of soybean operations. He organized the National Soybean Processors Association and served as its president for a number of years.*

domestic economy. It is becoming increasingly significant in our national economic pattern as the derivatives of the vegetable oilseed crops expand their commercial horizon. It is hard to visualize an industry of greater importance to our national economy and security in time of either war or peace.

The soybean processing industry is the infant segment of the vegetable oil processing industry in the United States. Except for a few isolated and intermittent processing operations the industry is only about twenty years old. The domestic processing industry and soybean production expanded simultaneously. Up until the war, soybean processing facilities have been provided in excess of soybean production. During the wartime period — under Government sponsorship, through the mechanism of price supports, price controls and subsidies — the processing industry has greatly expanded. The expansion has taken place very largely by providing additional processing capacity in the form of expeller or screw press equip-

ment. While there are sound arguments in favor of this procedure under a wartime economy, the policy developed under this exigency may haunt us during the postwar adjustment era.

## ADVANCE IS OVERDUE

Research and technological advances — resulting in operating economies and enhancement of the value of the finished products and competitive advantages — are long overdue in the vegetable oil processing industry in the United States. An abundant supply of relatively cheap imported vegetable oils and the lack of severe competition among the larger domestic vegetable oil producers have delayed the expansion of the continuous solvent extraction process in this country.

In Europe — particularly in Germany — before the war the vegetable oil processing industry had been forced by strained economic conditions and an acute shortage of fats to convert their processing systems over to the extraction process. In this country for approximately a century we have continued to use the antiquated process known as the hydraulic process. In recent years some progress has been made in the development and utilization of the expeller or mechanical screw press, especially in the soybean industry.

Perhaps because of the wide diversification of interests in the soybean processing industry, greater technological advances have been made than in the older segments of the industry. However, research, scientific development and technological advancement have not kept pace with the rapid overall growth of the soybean industry. There have been many pioneers and individualists giving birth to new ideas and developments in various channels of the industry, but the widely diversified interests of the dominating groups within the industry have greatly impeded scientific advancement.

The first continuous extraction unit to be built in this country was brought from Germany and installed in Chicago in 1934. Subsequently, other extraction units were purchased in Germany by domestic soybean processors prior to the war. We are no longer dependent upon Germany for this type of equipment. Already several progressive and resourceful American machinery manufacturers have developed and built several such units. Several other large and resourceful machinery manufacturers are exploring the possibilities in this field — studying the several process applications and the economics of the large plant versus the small plant. Machinery manufacturers who have been in on the ground floor in the oil mill machinery business for many years have tried to protect their old established lines of equipment — perhaps because the repair part business has been so lucrative.

Immediately following the end of the war, there will, without doubt, be a broad swing to the continuous solvent extraction process.

WHITNEY EASTMAN





The Government under the provisions of the soybean processors' contract has recognized the efficiency of the extraction process, as have the various interests who have already invested their money in these units.

As the industry swings over to the extraction process, there will develop a unification of interests among surviving processors such as the industry has not yet seen. The upheaval caused by such a technological advance in the industry will result in far reaching repercussions. Obsolescence will be exceedingly heavy in writing off undepreciated capital investment, and large amounts of new capital will be required to build the new modern plants and auxiliary facilities. New faces will appear in the industry, and old faces will disappear. Only those who can perform an efficient economic function as a converter or distributor will

remain. The industry will be fraught with many heartaches during this transition period but will emerge as a strong segment of our agricultural and industrial economy.

In order to stabilize the soybean industry and make it secure as a permanent part of our agricultural and industrial economy, we must closely correlate and harmonize the interests of the soybean grower, the processor and the consumer of the finished products. The soybean processing industry buys the raw materials from the grower and sells back to the farmer a large part of the manufactured products. The soybean processor, therefore, holds a key position in the industry, but in order to justify his existence and not be responsible for the upheaval of the industry's economic stability, he must convert soybeans into marketable high quality products efficiently and

distribute the manufactured products to the ultimate consumer at the least possible cost. If the soybean grower is to be expected to produce an adequate supply of soybeans, and this same grower or his farmer neighbor is to be expected to buy a large part of the finished soybean products, the grower is entitled to get a fair price for his soybeans in relation to the price he is asked to pay for the soybean products he is expected to buy.

The soybean industry is unique in this respect — perhaps more so than any other segment of agriculture. This is a real challenge to the soybean processor. American ingenuity and resourcefulness will meet the problem squarely and solve it. If one group fails to do the job, another will come forward to solve the problem. This is the price of progress.

## American Soybean Association Will Hold *Its Silver Jubilee*

At Urbana, Ill., September 12-13, 1944

The Silver Jubilee Meeting of the American Soybean Association will be the largest in the history of the organization if plans now under way bear fruit.

Dr. W. L. Burlison, head of the department of agronomy at the University, representing the host institution, and J. E. Johnson, Champaign, Ill., president of the Association, are jointly planning the convention.

It is fitting that the 25th annual meeting should be held in the very heart of the soy belt. Extensive educational exhibits of soybeans and soybean products will be featured. The work

at the University's Agronomy Farm and at the U. S. Regional Laboratory, which have long been leaders in soybean research, will be open for inspection.

Last year's convention at Cedar Rapids was billed as the 23rd, but it really was the 24th. Somebody lost count during the life of our organization which is now nearing the quarter-century mark. But Dr. W. J. Morse, senior agronomist of the U. S. Department of Agriculture, set us right. He kindly prepared the table of data published below concerning the Association's annual meetings from the first one at Camden, Ind., in 1920 to the present.

### ANNUAL MEETINGS, AMERICAN SOYBEAN ASSOCIATION 1920-1944, Inclusive

No. Annual Meeting	Date	Year	State	Place	President	Secretary
1st	Sept. 1	1920	Ind.	Camden	Taylor Fouts, Camden, Ind.	W. A. Ostrander, Lafayette, Ind.
2nd	Sept. 1	1921	Ill.	Urbana, Tolono	W. E. Riegel, Tolono, Ill.	W. A. Ostrander, Lafayette, Ind.
3rd	Sept. 1	1922	Mo.	Columbia	C. E. Carter, Columbia, Mo.	W. A. Ostrander, Lafayette, Ind.
4th	Sept. 11	1923	Wis.	Madison	G. M. Briggs, Madison, Wis.	W. A. Ostrander, Lafayette, Ind.
5th	Aug. 29, 30	1924	Iowa	Ames	W. J. Morse, Washington, D. C.	C. L. Meharry, Attica, Ind.
6th	Sept. 1, 2, 3	1925	D. C.	Washington	W. J. Morse, Washington, D. C.	C. L. Meharry, Attica, Ind.
7th	Aug. 10, 11, 12	1926	Miss.	Stoneville, Clarksdale, Greenville	W. E. Ayres, Stoneville, Miss.	C. L. Meharry, Attica, Ind.
8th	Aug. 9, 10, 11	1927	N. C.	Belhaven, Washington, Elizabeth City	F. P. Latham, Belhaven, N. C.	W. E. Ayres, Stoneville, Miss.
9th	Aug. 15, 16, 17	1928	Ind.	Camden, Lafayette	Taylor Fouts, Camden, Ind.	W. E. Ayres, Stoneville, Miss.
10th	Aug. 22, 23, 24	1929	Canada	Guelph	G. I. Christie, Guelph, Canada	J. B. Edmondson, Clayton, Ind.
11th	Sept. 10, 11, 12	1930	Ill.	Urbana	W. L. Burlison, Urbana, Ill.	J. B. Edmondson, Clayton, Ind.
12th	Aug. 17, 18	1931	Mo.	Columbia	W. C. Etheridge, Columbia, Mo.	W. L. Burlison, Urbana, Ill.
13th	Sept. 2, 3	1932	D. C.	Washington	W. J. Morse, Washington, D. C.	J. B. Park, Columbus, Ohio
14th	Aug. 3, 4, 5	1933	La.	Baton Rouge, Houma	John Gray, Baton Rouge, La.	W. E. Ayres, Stoneville, Miss.
15th	Aug. 22, 23, 24	1934	Ark.	Little Rock, Stuttgart, Marianna	C. K. McClelland, Fayetteville, Ark.	P. A. Webber, Madison, Tenn.
16th	Aug. 22, 23, 24	1935	Ind.	Evansville, Lafayette	K. E. Beeson, Lafayette, Ind.	P. A. Webber, Madison, Tenn.
17th	Sept. 14, 15, 16	1936	Iowa	Ames, Cedar Rapids, Hudson	E. C. Dyas, Ames, Iowa	K. E. Beeson, Lafayette, Ind.
18th	Sept. 14, 15, 16	1937	Ill.	Urbana	J. C. Hackleman, Urbana, Ill.	K. E. Beeson, Lafayette, Ind.
19th	Sept. 12, 13, 14	1938	Ohio	Columbus, Wooster	J. B. Park, Columbus, Ohio	K. E. Beeson, Lafayette, Ind.
20th	Sept. 11, 12	1939	Wis.	Madison	G. G. McIlroy, Irwin, Ohio	J. B. Edmondson, Clayton, Ind.
21st	Aug. 18, 19, 20	1940	Mich.	Dearborn	G. G. McIlroy, Irwin, Ohio	J. B. Edmondson, Clayton, Ind.
22nd	Sept. 12, 13	1941	Iowa	Ames, Des Moines	G. G. McIlroy, Irwin, Ohio	J. B. Edmondson, Clayton, Ind.
23rd	Sept. 15, 16, 17	1942	Ind.	Lafayette	D. G. Wing, Mechanicsburg, Ohio	G. M. Strayer, Hudson, Iowa
24th	Sept. 5, 6, 7	1943	Iowa	Cedar Rapids	D. G. Wing, Mechanicsburg, Ohio	G. M. Strayer, Hudson, Iowa
25th	Sept. 12, 13	1944	Ill.	Urbana	J. E. Johnson, Champaign, Ill.	G. M. Strayer, Hudson, Iowa

# PROBLEMS of the SOYBEAN PROCESSOR

By D. J. BUNNELL

● *Soybeans must be treated as an oil seed rather than a grain crop and graded accordingly, with premiums and discounts for fluctuations above and below a basic oil content. So says D. J. Bunnell, vice president of Central Soya Co., Inc. An address before the Soybean Processors' Conference at the University of Illinois.*

**I**NFLUENCES of this global war have penetrated into every phase of our national life until now each individual — of every class — has been affected. After the bitter experiences of the last two years, we have become fired with a determination that is the foundation for ultimate victory. The power of this nation's great production effort is generated from mines; from rich farm lands, and from factories. Of all these sources of production, there is none more important than agriculture. Since the early days, when the first colonists carried ashore treasured bundles of farm seeds, we have been primarily an agricultural nation. Through the years, as population increased, there developed the realization that diversification of farm production is essential to a more sound economic life. This trend has been guided by leaders of agriculture who have contributed so much that mere words cannot evaluate their accomplishments. In recent years, as an outgrowth of such endeavors, the soybean has become an important new source for oil and protein.

In the period before there was a processing industry, some farmers regarded soybeans as a crop to improve the soil, even though harvested for seed, because they knew the plant to be a legume. Many farmers were primarily interested in the seed crop for each spring there was a good market for all the available supplies of the

varieties known at that time. The Holbrook, the Ito San, AK's Haberlandt and Early Brown were varieties that have long since been replaced by names well known today. It is interesting to recall that after the first World War, in the spring of 1920, these varieties were sold for seed at prices that ranged from nine to eleven dollars per bushel.

At the beginning of the 1920's, soybeans were harvested by threshing machines — or separators as they were sometimes called. They were then sacked or stored in bulk in a dry bin until spring. The crop movement, if you care to give it that name, took place in April and early May, when seedsmen started out, after clover seed sales were about completed, to buy up stocks of the specific varieties to serve their trade. The local dealer, in the districts where farmers were known to have threshed beans for seed, helped the seedsmen in this work of accumulation. He always had a list of farmers, the number of bushels and varieties raised and therefore functioned as the contact man between grower and seedsmen. The beans were sacked, loaded into cars and shipped to the seedhouses. There they were cleaned, germinated and then sold to the seedsmen's dealer trade through the medium of price cards that were mailed out each week. Some farmers used a hand powered clipper-cleaner to clean their own beans, and sold them to their neighbors.

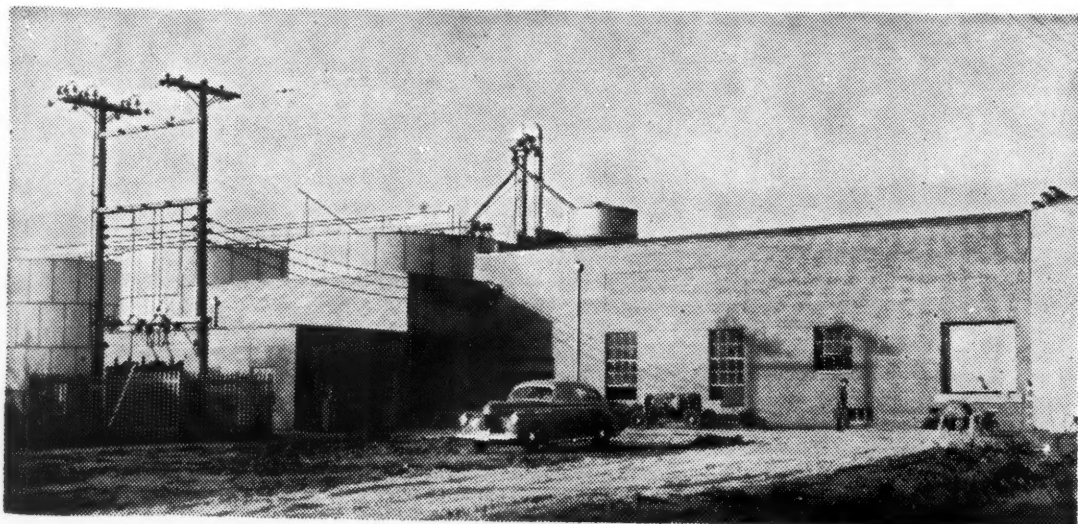


D. J. BUNNELL

At this time a limited alfalfa acreage was just getting started in the Middle-West, and sweet clover was still considered a weed. Seedsmen were even fearful that soybeans would replace Medium Red, Mammoth and Alsike clover as a soil builder, thereby undermining their more profitable trade in these old, established legumes. Gradually, with each passing season, there came a better understanding of the place soybeans would occupy in relation to other crops. For the farmer, this was a period of exploration and adjustment. His knowledge about planting, cultivation and harvesting grew; he was learning to plan soybeans as a part of this regular production.

Two decades have brought a great change. Today we can look back upon all the constructive influences of the trial and error period and give thanks that these efforts were so well timed as to make possible today's large, badly needed soybean production. The accomplished task is better ex-

## Soy-Rich Products, Inc. Soybean Mill



At left is the new \$150,000 plant of Soy-Rich Products, Inc., at Wichita, Kans., which began operations in March. One hundred thousand dollars worth of new machinery is on order.

—Photo Wichita Sunday Eagle



pressed in terms of annual production of 1 billion 300 million pounds of oil for edible and technical uses, and over 3 million tons of protein concentrate for man and animal. Today's near 200 million bushel crop is assurance that production is becoming established upon a plane of permanent, large volume that assures its place in American agriculture.

War-time economics have brought fixed prices to soybeans and the major products — oil and meal. Processors, in their operations, are now contracted with the government — for it is the best way to safeguard continuous, maximum production regardless of the rapidly changing economic influences always present during a war period. It is not my purpose to go into a description of this complex relationship, for it is temporary. We have enjoyed our association with the government, and we honor the men in the various agencies who have helped fit our problems to the accomplishment of the objective. We shall continue to cooperate with all our energy and with the full employment of all our resources until peace returns again. Then we look forward to a future that will return free enterprise to growers, to ourselves and to our customers, for we are believers in the principles that established this industry in the beginning; in the time-tried principles of individual initiative and fair competition.

I should like to direct your minds to the problems of a processor as related to the more normal circumstances of peace time.

#### THE FIRST PROBLEM

After the scientist has developed the most desirable soybean for a given set of circumstances, the processor is then concerned with the resulting harvest that gives him suitable raw material for a successful operation.

The first problem that is faced by the processor is the physical characteristics and quality of the crop. Weather conditions give a different set of circumstances each year. No better illustration can be cited than the experience of the last three seasons. Two years ago there was a prolonged wet harvest. Last year an early frost developed green damage, followed by serious field damage in thousands of acres that were not harvested until late winter and early spring. This year we have a soybean of high quality, according to grain standards, yet an oil content below normal.

This is a young industry. Our experience has not exhausted all the possibilities that make for varying characteristics of bean quality. Any new set of conditions shall give us new, unlooked for problems and difficulties.

The complications and hazards of handling a wet crop begin at the country elevator. Soybeans of high moisture must be moved without delay to avoid spoilage. Every shipper — in his effort to serve the farmers of his community — rushes these problem beans to the processing plants. Upon arrival, in non-storeable condition, an exacting drying operation begins. This chain of events develops a volume of movement that is staggering. The processor must adjust his drying operation to large volume bean receipts. Of necessity, this means he can take out only part of the moisture on the first handling. The immediate danger is thus removed, and in this condition the beans are put into temporary storage where the problem of good soybean warehousing begins. Constant watch must

be kept of every bin to be assured that condition is maintained. As soon as the rush movement is over, it is then necessary to complete the drying operation by reducing the moisture content to a safe level.

Two years ago beans arrived in such a wet condition that even the second drying did not give assurance of safety. In the operation of our company, we were forced to keep beans turning on a 24 hour basis all through the winter until they were processed. Notwithstanding these precautions, hundreds of thousands of dollars were lost throughout the industry because soybeans went out of condition.

Last year thousands of acres went into the winter unharvested. When these beans were finally combined in the late winter and early spring, field damage ranged from 25 to 80 percent. The problems of storage, preparation for processing and actual handling in the plant were the most difficult

that have ever confronted the industry. Not only were the products substandard in quality, but the strain on processing equipment was so heavy that the ingenuity of processors was sorely taxed. Very heavy adjustments had to be paid to move the oil into consuming channels.

Judged on a basis of grain standards, the quality of the 1943 crop was one of the best ever harvested. In a very short time, however, all processors realized that the oil yield was quite a little below normal. This confirmed what had been in the minds of thoughtful processors for a number of years — that the value of soybeans to the processor could not be determined according to grain standards, but upon an analysis for oil content. This year, oil content at 14 percent moisture has hardly averaged 17 percent, over the soybean belt. In other years it has averaged from 18 to 18½ percent.

This difference may not impress you as

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being large, yet if I mention that in our own operation the difference in oil yield, according to actual figures based upon November experience, amounted to 11½ cents per bushel, you will readily understand that these variations in oil content can spell the difference between a profitable and an unprofitable operation.

Fortunately, the situation has not been disastrous this year because processors, under the government contract, are buying beans for the first time on an oil content basis, from Commodity Credit Corporation. The farmer does not yet realize the full importance of oil content because war conditions have made necessary a guaranteed price to growers without regard to processing value, in order that large production be maintained.

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They are handled through grain elevators. In the movement to market, the mechanics and terminology of the grain trade are used. In futures trading, the facilities of the largest grain terminal in the world are used. These are the circumstances that have directed our thinking. We have treated soybeans as though they were another grain crop. In contrast, the European method is entirely different. There soybeans have always been regarded as an oil seed. There they have moved through the channels of the oil seed trade. Soybeans are traded on the contract of the London Association for Trade in Oils, Fats and Oleaginous Seeds, together with copra, peanuts, palm kernels and other oil bearing materials. The factors that determine a grade of soybeans, in this country, are moisture, test weight, color, dockage and foreign material. These factors do have a direct influence upon oil content; but I wish to impress upon you that the value of the oil content itself has never been reverted to the grower nor has it been recognized, as a standard, by the parties who trade in, handle or process soybeans — even though the amount of oil in the bean is the dominating factor in determining the value of beans to the processor.

#### PRINCIPLE OF OIL CONTENT

The soybean grade should recognize the principle of a basic oil content with premiums and discounts as the variation fluctuates above or below the standard. It would eliminate the hazard to the processor of having to guess the valuation of oil content from crop to crop, and even in the same year, from beans raised in different sections of the country. It would eliminate the objectionable practice of delivering on the Board of Trade soybeans tenderable in accordance with all the rules and regulations, yet as much as 6 percent below standard in oil content. I do not believe all the efforts of agronomists to introduce the best varieties, will cause the farmer to be enough interested in oil content unless he has an economic reason for accepting the best oil content varieties that are developed for him. Farmers should think in terms of oil production per acre. The agricultural scientist should not confine his thinking to the highest oil yielding bean, for the experience in future years may prove that some medium oil yielding variety that has the ability to out-produce in bushels can therefore give a higher oil yield per acre.

The physical problem of handling the heavy movement of millions of bushels of soybeans in a few weeks at harvest time, primarily concerns the processor. The circumstances that result from this burdensome flood of beans, concerns the grower as much as it concerns the processor. The soybean industry is a conversion industry. The processing margin is its return for capital investment and labor. It is not the purpose of this industry to find remuneration through price advances of either beans or products. There is no reason for the existence of a plant in the activities of one who speculates. The processor is not interested in the absolute value of the soybean, other than the fact that he always wants the price to be attractive to the farmer. It makes no difference to him whether the price is high or low. The value to the processor is expressed in terms of what he can realize in the way of processing margin. Since he works for a processing margin, he must sell his products as he accumulates raw material. A long position in either oil or meal represents great risk and may be considered an outright speculation. The

practical consequence of this situation is: the heavier the bean movement, the more urgently is the processor forced to sell products in large volume. The more anxious he is to dispose of his products, the more inclined is his buyer to become indifferent and bid the market down. As the buyer of products reduces his ideas of value, the processor is forced to adjust his price for beans to reflect the decline he has taken. We have seen times, in free markets before the war, when a point was reached where the market for products was temporarily saturated. The processor was then forced to sell either beans or products in a futures market. This kind of operation may usually be carried out without difficulty on a reasonable volume. But when it is attempted with heavy volume, the markets become unduly depressed. This provides an opportunity for the professional speculator whose operations then further complicate the processor's attempt to hedge, and also greatly increases the hazard. Soybeans once sold in a futures market must be bought back, if the processor is to run his plant. The other alternative is to deliver the beans when the contract month comes around. The speculator is well aware that the processor will do almost anything to keep from making such deliveries.

Many times this kind of a situation has developed as an opportunity for the speculator, and proved a severe disadvantage to the processor. A good volume of movement will always be needed in the fall for soybean plants must build up sufficient backlog of stocks to assure continuous operation. But farmers would be far better off if they did not try to rush everything to market just as soon as the crop is harvested. These unwieldy, heavy movements develop problems that revert to the grower. Farmers should recognize that they have an obligation to themselves, to assume some of the responsibilities of bean storage through the winter. There would be more orderly movement. The processor would market his products over a longer period, without pressing for sales, and a better average price would result. The benefits of a smoother flow of soybeans, from farm to plant, would be reflected to the farmer in a better average price.

#### DYNAMIC VIEWPOINT

Today we have an established industry. We have arrived at a period of transition, a natural growth development after intensive, short, pioneering years. Are we going to maintain the present status of rapid advancement and development or are we going to relax in order that we may view, with satisfaction, past accomplishments? The record, I believe, entitles us to take a dynamic viewpoint toward the future. Research, now being conducted, is rapidly opening new horizons. We have arrived at the age of specialization; the adaptation of new products to new uses.

I shall not try to predict the problems that are to be faced — they are many — the adjustments too complex to understand or foresee at this time. It can be stated without hesitation, however, that this newly established industry shall face the future with confidence and serve the nation in the problems of peace with the same initiative and vigor it has shown in the problems of war.

— s b d —

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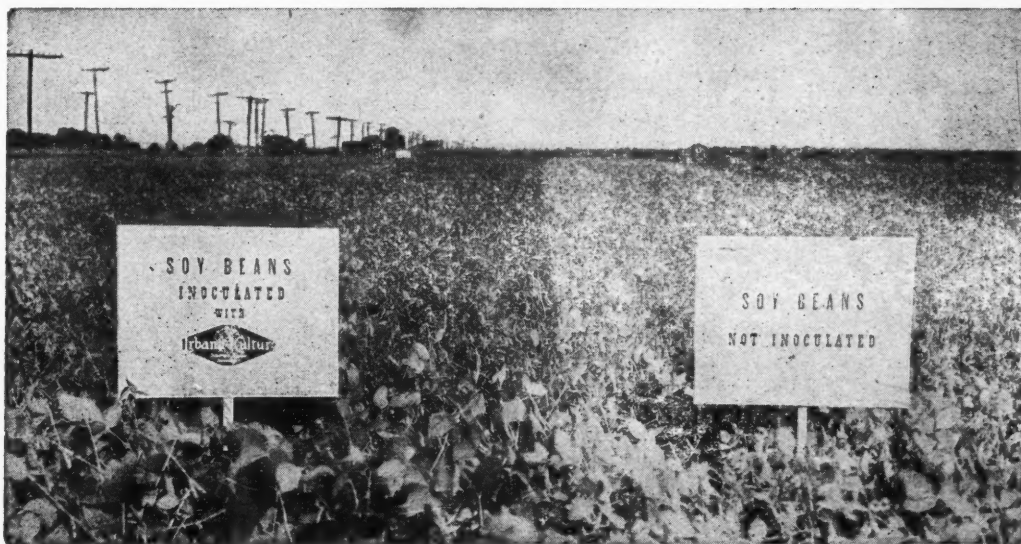
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A good crop of soybeans will grow on good land without proper inoculation—but it grows at an extra cost of at least \$10 per acre in nitrogen taken from the land.

Neither prior crops nor the presence of nodules guarantee the proper inoculation necessary to take this nitrogen "Free From the Air."

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Guarantee proper inoculation  
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2 bushel size.....	\$ .30
5 bushel size.....	.45
25 bushel size.....	1.95
30 bu. size (6-5 bu. cans)....	2.60

**KALO INOCULANT  
COMPANY  
QUINCY, ILLINOIS**



## GRITS AND FLAKES

FROM THE INDUSTRY



Floyd E. Hiegel, of Leipsic, Ohio, who with his father, Charles A. Hiegel, owns and operates seven elevators in Ohio, and who has been manager of the Continental Farmers Elevators plant at Continental, has purchased the local Garman Grain Elevator which will be operated as the Delphos Grain & Milling Co., which company, now being incorporated, will take possession of the business June 1. Additional capital will be invested and machinery will be installed for the processing of soybeans. A building program also is planned for the enlargement of the plant. Mr. Hiegel stated the grain business will be continued as in the past. C. A. Hiegel & Son operate elevators at Leipsic, Continental, Versailles, Miller City, Hartsburgh, Oakwood and Farnham.

The War Food Administration has announced that William H. Jasspon, director of the oilseeds division of the Commodity Credit Corporation, will assume the additional duties of chief of the Fats and Oils Branch, Office of Distribution, thus bringing all the fats and oils functions of WFA under a single administrator. As chief of the Fats and Oils Branch, Jasspon will succeed Leon Falk, Jr., who is returning to private business in Pittsburgh, Pa. Engaged in the oilseeds processing business since 1907, Mr. Jasspon came to the CCC in July 1942, and since then has been consultant and director of its oilseeds processing program.

The Southwestern Chemurgic Conference was held in Oklahoma City May 18-20, with papers read by outstanding national leaders in agriculture, science and industry. Many new chemurgic developments were revealed and discussed in detail, and attention was given to postwar chemurgic planning and possibilities for the southwestern states. A special showing was a plastic age exhibit containing more than 1,500 items divided into three groupings, plastics in the war effort, plastics in industry and plastics in the home.

The following were among those in attendance at a recent soybean production course at Armstrong, Ill.: Chas. Cribles, Floyd Firebaugh, Truman French, Robert

Hamilton, Earl Heckerson, Glen Heckerson, Cova Holt, Harvey Howell, George Isenhower, M. E. Kinney, Paul Knight, George McClellan, Hubert Halcomb, Wm. Blue, Joe J. Marron, Frank Rodemacher, Chas. Gilbert, Lowell Kuykendall, and Leo J. Buck.

A new office, providing much needed additional room, will be opened about May 1 in New York City by Ansul Chemical Company, Marinette, Wis. The company has leased space in the Lincoln Building at 60 East 42nd Street. Dugas Engineering Corp., an Ansul subsidiary, will occupy the same quarters. T. R. (Bob) Kearney will handle the Ansul line and Glenn Stratton will be in charge of Dugas activities.

The eleventh and twelfth grade nutrition class of Manheim Township School at Neffsville, Pa., recently sponsored the soybean exhibit of the American Soybean Association in the school. Over 50 soybean products were on display. Miss Evelyn C. Miller, the instructor, was in charge.

I. Rosen, manager of the Quincy Soybean Products Co., at Quincy, Ill., gave an interesting talk on the history and possibilities of the soybean as one of America's foremost money crops before the Hamilton, Ill., Kiwanis club April 17.

— s b d —

## ONTARIO VARIETIES

In his annual report P. M. Dewan, Ontario Minister of Agriculture, gives the bushels per acre yields of different varieties of beans at the Western Ontario Experiment Farm, in 1942, as follows:

E.F.R., 49.27; Wisconsin Robust, 49.27; Michigan Robust, 48.41; Navy (Wigle), 48.41; Guelph Selected, 47.98; Ithaca Robust, 47.54; Michelite, 46.68; Blue Pod, 39.76; Burbank (Alberta), 38.90; Yellow Eye, 34.58; Red Kidney, 34.58; Pinto, 32.58; B.C. White, 31.98; B.C. Speckled, 26.80; Alberta Brown, 12.97.

"E.F.R.," Michelite and the different types of Robust beans gave the largest yields. Michelite was slightly down in the test this year but continues to give the highest average over a period of years.

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# Canadian Supply Is Lower

## ● MORE BEANS BEING FED

Canada's commercial supply of soybeans promises to be smaller during the 1943-44 crop than in 1942-43 despite the increase in acreage, according to the Dominion Bureau of Statistics. Substantially larger amounts are being retained for feeding, especially in Ontario where the bulk of the crop is produced.

There is also evidence that a considerable portion of the acreage was not harvested for beans.

Of the 55,400 acres planted in 1943, about 47,000 were in Ontario. A recent survey of that Province indicates that only 68 percent of the planted area was harvested and that approximately 35 percent of the beans will be fed to livestock.

The total quantity of soybeans inspected by the Board of Grain Commissioners in the eastern division between August 1, 1943, and February 7, 1944, was 90,000 bushels, and during the same period 1,500 bushels were inspected in the western division. Only a small percentage of these deliveries has been available for the production of oil. Some soybeans are being used for human consumption, included those salted as a substitute for peanuts.

In order to keep domestic crushers operating, it has been necessary to import small quantities of soybeans from the United States. This is probably one of the reasons for increasing the 1944 goal from 55,100 to 90,000 acres. A price of \$1.96 per bushel for No. 1 soybeans, basis Toronto, was established as a floor level for the 1942 and 1943 crops. This price nets the grower about \$1.86 at the shipping point.

Canada has produced soybeans for several years, but it is only since the war began that acreage has expanded sufficiently to make possible a commercial crop of importance. The area has been centered chiefly in southern Ontario, although experimental growing has taken place also in Manitoba and parts of British Columbia.

CANADA: Soybean acreage, production and yield, 1936-43:

Year	Area Acres	Production* Bushels	Yield per Acre Bushels
1936	11,217	247,984	22
1937	8,602	159,244	18
1938	9,250	203,500	22
1939	9,786	215,292	22
1940	10,600	233,200	22
1941	10,900	216,900	20
1942	44,000	925,000	21
1943	50,400	907,250†	18

Compiled from official sources. \*Bushels of 60 pounds. †Revised.

— s b d —

## GROWTH OF RESEARCH

By Claude R. Wickard

Secretary of Agriculture  
Over Blue Network

Out near Beltsville, Maryland, just a few miles beyond the outskirts of Washington, lies a large tract of rolling farm land owned by the Federal Government. On this expanse of attractive countryside is the Beltsville Research Center of the Department of Agriculture — the world's greatest center for scientific agricultural research.

The range of the work at the Research Center is tremendous. I was especially interested in the investigations of the Bureau

of Human Nutrition and Home Economics.

In a laboratory of the Bureau of Human Nutrition and Home Economics, I was introduced to some of the results of more than 1,650 individual tests that have been made since October, to find the best recipes for using soybean products. For instance, I sampled a vegetable chowder in which soybean grits made up 30 percent of the solids; a pea soup which contained 30 percent soy flour; and a gingerbread con-

taining 10 percent soy flour. I was told that a meat loaf formula had been worked out which substitutes soy grits for about 20 to 25 percent of the meat. This is research of immense practical value in helping stretch meat supplies.

Soybean products and other vegetable protein products are going to grow rapidly in importance as a part of the national diet and must be relied upon increasingly to supply our protein needs.

— s b d —

This is no time to speculate in land. Values are already over 130 percent of the 1935-39 average. Wartime prices always inflate land values — and there has always been a corresponding slump in the post-war period.

## Commodity Service for the Trade that Really Puts Service First

WHEN we say we put service *first* in our dealings with the trade, we mean just that.

For instance:

- We maintain extensive contacts—backed by a comprehensive wire service. Of our eighty-five offices, sixty are situated in the areas where commodities are either grown or processed. Result: information direct-from-source to *you* in the shortest possible time.
- In addition, we have specialists in each commodity—men who have built their business lifetime around that particular staple—who can give you practical assistance in working out your commodity problems.
- This *active* service is backed by our weekly commodity letters, *plus* special surveys made when a particular commodity situation calls for such a study.
- Why not put these advantages to work for you *now*? You may have a more detailed explanation of how our commodity service can help you through any of our offices.

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# Soy

## CHERRY PIE

"DO FOODS taste better when they're enriched with soy flour?" That's a frequent question in the *Digest* mail bag. And the answer is a definite "yes"! Yes, foods *do* taste better when you enrich them with soy flour, following well-tested recipes like those given below. Foods taste richer, more "buttery," some folks say. Others claim it gives them a new nut-like flavor.

But this much we know for certain. Soy flour makes our favorite recipes more appetizing, more delicious, and, somehow, more *satisfying*! All this, in addition to giving them a great deal of extra muscle-building power with the high concentration of complete protein in soy flour.

The cherry pie illustrated is an excellent example of a soy-enriched recipe. The crust is appetizing, flaky, flavorful! The filling is a real delight! We don't think you'll ever go back to ordinary pie when once you've tried this new recipe using soy flour.

### Soy Pie Crust

(Makes 1 2-crust Pie)

- |                         |                    |
|-------------------------|--------------------|
| 1/4 cup soy flour       | 3/4 teaspoon salt  |
| 1 1/4 cups white flour  | 1/2 cup shortening |
| 3 tablespoons ice water |                    |

Sift soy flour and white flour separately. Measure and sift together with the salt. Cut in shortening. Blend in ice water. Knead lightly to bind together and roll out on a lightly floured board.

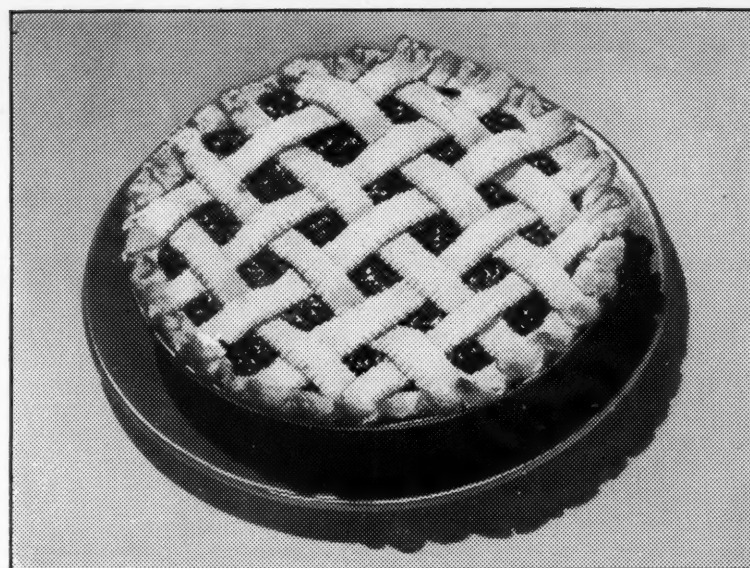
### Soy Cherry Pie

- |                           |                                   |
|---------------------------|-----------------------------------|
| 3 cups canned cherries    | 1/4 teaspoon cinnamon             |
| 2 tablespoons corn starch | 2 tablespoons butter or margarine |
| 1/3 cup soy flour         | 1/4 teaspoon almond flavoring     |
| 1 cup sugar               |                                   |
| 1/2 teaspoon salt         |                                   |

Soy pastry for double crust pie

Measure fruit. Drain juice from fruit and measure into a pan. There should be one and one-fourth cups of juice. If less than this amount add water. Combine cornstarch, soy flour, sugar, salt and cinnamon and stir into juice. Cook until thickened. Remove from heat and stir in butter or margarine and almond flavoring. Add the drained fruit and pour into pastry-lined 9-inch pie pan. Cut balance of pastry into 1/2-inch strips. Arrange in lattice across top of pie-filling. Trim and crimp edges of pastry. Bake in a hot oven (425° F.) for 10 minutes, then reduce heat to 350° F. for 20 to 25 minutes.

Soy flour being a very versatile product may be used in numerous ways. Here are some good recipes to prove the point.



— A. E. Staley Co.

### Soy Party Chicken Loaf

(Serves 7-8)

- |  |   |
|--|---|
| 4 cups chopped cooked chicken or a combination of chicken and veal | 3 tablespoons chicken fat, butter, or margarine |
| 2 tablespoons chopped pimiento                                     | 3 tablespoons sifted soy flour                  |
| 1 teaspoon salt  | 3 tablespoons sifted enriched flour             |
| Dash pepper  | 3/4 cup stock or milk                           |
| 1 teaspoon Worcestershire Sauce                                    | Soy pastry                                      |

Combine meat, pimiento, salt, pepper, and Worcestershire Sauce. Melt fat. Blend in soy flour and enriched flour. Add stock or milk a little at a time, mixing until smooth. Cook, stirring constantly until thick. Add sauce to meat mixture and mix well. Shape into a loaf and chill for about three hours. Roll soy pastry into a large oblong. Place chilled loaf in the center and fold pastry around sides and ends. Roll a piece to fit top. Moisten edges with water. Seal, fold over edges and pinch together firmly. Decorate top with left-over pastry cut in fancy shapes. Bake in a hot oven (425° F.) for 10 minutes. Reduce heat to moderate (375°) and continue baking for 40 minutes or until nicely browned. Serve hot with chicken gravy or mushroom sauce.

### Soy Mexican Chili

(Serves 8-10)

- |  |                                |
|--|--------------------------------|
| 1/2 cup soy flour                        | 1/2 cup chopped green pepper   |
| 3 1/2 cups cooked tomatoes               | 1 1/2 teaspoons salt           |
| 1 pound ground meat, beef, pork and veal | 1/2 teaspoon pepper            |
| 1 1/2 tablespoons fat                    | 1 cup water                    |
| 1 cup chopped celery                     | 2 1/2 cups cooked kidney beans |
| 1/2 cup rice                             | 1 1/2 teaspoons chili powder   |

Combine soy flour and tomatoes and let stand. Brown meat in hot fat. Add celery, rice, onion, green pepper, salt, pepper, water and the soy flour and tomato mixture. Bring to boiling point. Cover and simmer for one hour. Add kidney beans and chili powder and cook for 15 minutes. Serve very hot.

### Soy Southern Spoon Bread

(Serves 5-6)

- |                          |  |
|--------------------------|--|
| 2 cups milk              | 2 tablespoons melted butter or margarine |
| 1 teaspoon salt          | 3 eggs, unbeaten                         |
| 1/3 cup sifted soy flour |  |

- |                         |                           |
|-------------------------|---------------------------|
| 1/3 cup white corn meal | 2 teaspoons baking powder |
| 1 tablespoon sugar      |                           |

Scald milk. Combine salt, soy flour and corn meal. Add slowly to scalded milk, stirring constantly. Cook and continue stirring until thick and smooth. Add sugar and melted butter or margarine. Remove from heat and add eggs, one at a time, beating vigorously after each addition. Add baking powder and beat well. Pour batter into a well-greased shallow casserole or deep pie pan and bake in hot oven (400° F.) for 30 to 35 minutes. Serve at once with butter or margarine.

### Soy Doughnuts

(Makes 24 Doughnuts)

- |                             |                           |
|-----------------------------|---------------------------|
| 1/4 cup butter or margarine | 4 teaspoons baking powder |
| 1 cup sugar                 | 1 teaspoon salt           |
| 2 eggs                      | 1 1/4 teaspoons nutmeg    |
| 1-1/3 cups soy flour        | 3/4 teaspoon cinnamon     |
| 2-2/3 cups white flour      | 1 cup milk                |
|                             | 1 teaspoon vanilla        |

Cream butter or margarine. Add sugar gradually and continue creaming until light and fluffy. Beat in whole eggs. Sift soy flour and white flour separately and measure. Combine and add baking powder, salt, nutmeg, cinnamon, and sift together. Add dry ingredients, alternately with milk. Stir in vanilla. Roll dough 1/4-inch thick on a lightly floured board. Cut with doughnut cutter. Fry in deep fat (365° F.) until doughnuts are brown on one side then turn and fry on second side. Drain on absorbent paper. Sugar lightly, if desired.

### Soy Muffins

(Makes 16 Muffins)

- |                           |   |
|---------------------------|---|
| 1 cup soy flour           | 2 tablespoons granulated sugar          |
| 1 cup enriched flour      | 7/8 cup milk (1 cup less 2 tablespoons) |
| 3/4 teaspoon salt         | 5 tablespoons shortening                |
| 2 teaspoons baking powder |   |
| 1 egg                     |   |

Sift soy flour and measure. Sift enriched flour and measure. Measure and sift together with rest of dry ingredients. Combine lightly beaten egg, milk and melted shortening and add to dry ingredients. Blend lightly. Pour into well-greased, two-inch muffin pans and bake in hot oven (400° F.) for about 20 minutes. Serve hot. Light and tender, these hot muffins dress up any meal — breakfast — lunch or dinner.



# DO YOU KNOW THAT IN 1943 THE AREA WITHIN 25 MILES OF NICKEL PLATE ROAD

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Processed 30,000,000 bushels — 20% — of the 150,-  
000,000 bushels of soybeans used industrially?

Returned to its farmers from soybeans alone more than  
\$125,000,000 — exceeding their cash return from  
any other crop except corn?

Our railroad will enjoy the opportunity to furnish you the facts  
on soybeans and soybean products to fit your particular needs.  
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**Industrial Development Department**  
Cleveland 1, Ohio

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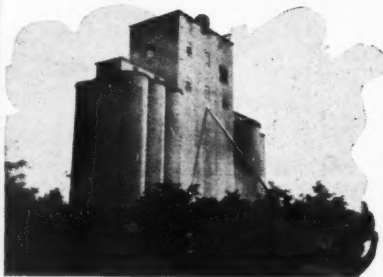
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## After the War

When victory comes, Neff & Fry will again be able to serve all the regular markets as in time past. Today, however, our entire production is going to high priority customers.

If you can furnish such a high priority, we invite you to consider the advantages of Neff & Fry bins — sturdiness, cleanliness, and convenience. Stave or monolithic concrete construction. New 1943 catalog just off the press.

THE NEFF  
& FRY CO.  
CAMDEN,  
OHIO



NEFF & FRY STORAGE BINS

# Surface Only Scratched

## ● IN SOY FOOD EDUCATION

The surface has scarcely been scratched as yet in educating the American public to the use of soy foods. A well rounded educational campaign based on scientific facts would do much to promote their acceptability.

These are conclusions reached by the committee on food habits of the National Research Council, Washington, D. C., after two student-conducted studies on the public attitude toward the use of soybeans as food.

Students at Queens College, New York, the universities of South Dakota, Oklahoma, California and Alabama and Iowa State College interviewed several hundred people of many different walks of life.

Analyses of the interviews indicates that in general the American people have not as

yet accepted soybeans as food. Though a considerable number of the people interviewed possessed some information about the soybean or had some experience in eating it, it as yet has not found its place in the American diet.

The committee suggests that one of the first points on which the public would like to have further information about soybeans is their nutritional value.

The group cautions against promoting soy foods as substitutes, since substitutes are apt to be discarded as soon as other foods are available. They should be presented on their own merits.

The studies were made as a guide for the U. S. Department of Agriculture and the soybean industry in further educational efforts in the use of soybean food.

Below, publicity prepared by Iowa State College as part of the campaign to reach acreage goals in 1944

## Here's What 10 Acres Of SOYBEANS WILL DO...

12,000 LBS. (from 10 Acres) Will Produce:

**CALORIES** { FOR 23 PEOPLE  
FOR ONE YEAR... }

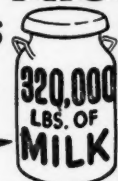
OR

**OIL** { VEGETABLE FOOD FATS FOR  
100 PEOPLE FOR ONE YEAR... }



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BALANCED RATIONS  
FOR 64 COWS,  
*Producing*



SUPPLEMENT RATIONS  
FOR STEERS, *Making*



OR

SUPPLEMENT RATIONS  
FOR HOGS, *Producing*



OR

MEAL FROM 10 ACRES  
OF SOYBEANS  
Will Replace 17 ACRES  
OF **CORN**  
FOR GROWING,  
FATTENING PIGS.



Iowa Agriculture Extension Service





Specify **FULTON** Cotton Bags for shipping soybeans and soybean meal.

## Use **FULTON** Quality **COTTON BAGS**

As containers for shipping soybean meal they give real satisfaction. In addition Fulton Quality Bags have the advantage of valuable re-use to farmers and farmers' wives. Made of sturdy, even quality cotton cloth, they amount to a worthwhile premium.

# **FULTON BAG & COTTON MILLS**

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Today all Purina is engaged in a "Food for Victory" Crusade ... a Crusade to help the farmers of America produce efficiently the most meat, milk and eggs from the supplies of feed now available. Purina's four soybean processing plants — every man and every machine — are in this Crusade producing to capacity.

*are in the "Food for Victory" Crusade*

## **PURINA MILLS**

Soybean Processing Plants are Located at  
St. Louis, Missouri • Iowa Falls, Iowa  
Circleville, Ohio • LaFayette, Indiana



**FOOD WILL WIN THE WAR AND WRITE THE PEACE!**

# WASHINGTON DIGEST

By PORTER M. HEDGE

Washington Correspondent for  
The Soybean Digest

## Points Off Edible Oils

"Free rationing" of shortening and other edible oils will continue as long as the currently ample supply is able to meet the civilian demand, the Office of Price Administration told *The Digest* this month.

With comparatively heavy runs of hogs expected to continue throughout the sum-

mer, making ample supplies of lard available, this is interpreted to mean at least for several months.

Point values on shortening, cooking, salad, and other edible oils were reduced to zero last month. Free rationing of lard, started more than a month earlier, had enabled edible oil supplies to catch up with civilian demand and rationing was no longer considered necessary.

Soybean oil sales to the shortening trade had been reported virtually stopped by the free rationing of lard, and some mills were said to have been on the point of closing because of reduced sales and inadequate storage facilities.

Commodity Credit Corporation meantime had purchased 175 tank cars of soybean oil for April, May and June shipment from plants in Iowa, Nebraska and Kansas to relieve the pressure on mills with inadequate storage. CCC says that soybean oil is now moving fast enough to keep all plants operating.

Point value of margarine, meantime, has been reduced from 6 to 2 points in line with the four point drop in butter, made possible by a temporary increase in butter supplies. The lower point value is effective through June 3.

This adjustment on points on margarine followed telegrams by J. E. Johnson, president of the American Soybean Association, Champaign, Ill., and E. J. Dies, president of the National Soybean Processors Association, Chicago, to Marvin Jones, administrator of the War Food Administration, pointing out that the prospective shutting down of soybean mills might jeopardize the 1944 soybean acreage goals and suggesting that point values be removed temporarily on all edible oils and shortening.

## Expellers Unavailable

War Food Administration's Office of Materials and Facilities and War Production Board report this month that expellers counted on a month ago for additional soybean plant expansion this year, will not be available for the time being.

WFA says the screw press quotas of manufacturers have been used up as far ahead as January, 1945. No applications for this type of equipment for plant expansion will be approved, a WFA spokesman told *The Digest*, until the Administration obtains a clearer picture of this year's soybean crop prospects and is able more accurately to assess processing requirements for 1945.

## "The Margarine Act of 1944"

Lines are being drawn for another sharp, though possibly brief, Congressional clash over the perennial issue of removing the Federal tax on margarine which for 58 years has restricted its use.

Public hearings on repeal legislation introduced by Senator Ellison D. Smith of South Carolina will be held late this month or early in June by a sub-committee of the Senate committee on agriculture.

Members of the sub-committee are Sen-

ators John Bankhead of Alabama, chairman, Richard Russell of Georgia, and Eugene Millikin of Colorado. Bankhead is busy with a multitude of other Senate duties and may turn the chairmanship over to his Democratic and pro-repeal colleague, Senator Russell.

The hearings and the committee deliberations are expected to be comparatively short, despite the explosive nature of the subject. The arguments for and against repeal have been hashed over many times during the last 12 months. The Senate is anxious to wind up its most pressing affairs and recess in ample time for the party conventions. And Senator Bankhead wants to push the margarine bill through his committee before the recess.

The Smith bill, called "The Margarine Act of 1944," would repeal the long-standing 10-cents-a-pound Federal tax on colored margarine, remove the license fees now imposed on wholesalers and retailers handling margarine, permit the product to be labeled "margarine" instead of "oleomargarine," and place the regulation of margarine specifically within the authority of the Food and Drug Administration.

The bill would continue the 1/4-cent-a-pound Federal tax and the \$600-a-year license fee on margarine manufacturers.

What are its prospects? Paul Truitt, president of the National Association of Margarine Manufacturers which is spearheading the fight for repeal, says "never more than a fighting chance."

Vegetable oil, cattle, and consumer interests, though somewhat loosely organized, will line up in support of the bill. The Northern dairy bloc, as usual, is expected to present a solid front against it. General farm organizations, with membership in both the margarine and dairy camps, are not expected to take a national stand on the question.

Senator Bankhead thinks he can get the bill favorably reported out of committee. And explosive Senator Smith says "we're going to!"

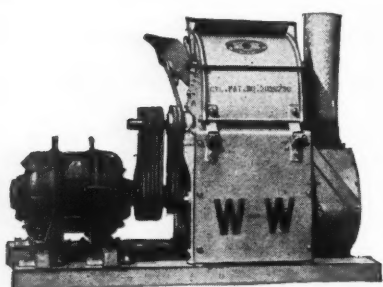
Most Washington observers are agreed that the most that can be said of the bill's chances for passage is that it faces stiff, well-organized opposition with the legislative odds heavily against it. But the margarine interests are hammering away, documenting their case with scientific findings, capitalizing upon the war-born shortage of table spread, and predicting that the day will come when an aroused consuming public will insist upon the removal of discriminatory legislation.

## Acreage Picks Up

Though still short of the goal, latest AAA estimates indicate soybean acreage prospects in Corn Belt states have improved about five percent over a month ago.

Soybean acreage in 10 Corn Belt states is now estimated at 10,500,000 acres against a goal for these states of 11,300,000 acres.

The estimate is based on the AAA farm plan signup during April and on early-May state committee estimates, taking into account the prolonged spring rains which have delayed planting, cut sharply into oats acre-



## LOOK AT THESE ADVANTAGES!

Besides its ability to pulverize materials when powder-consistencies are desired, the W-W design gives you these features: A wide, thin stream into the grinder. Cuts horsepower; reduces heat and friction. Prevents clogging of screens. Reduces moisture loss. Staggered hammers prevent clogging of screens or choking — applying not only to pulverizing but to heavy-duty grinding. No need of pre-cutters or crushers.



## Roomy Feed Openings

Our Grinders have feed openings 18 inches to 36 inches wide, which promote COOL GRINDING over a wide feed opening, permitting W-W Grinders to grind OILY Materials finer than others with LESS Horsepower.

Our grinders can be adapted for any type of Grinding, Pulverizing Dry Materials, Grinding Materials with high grease or oil content, as well as grinding of Wet, Green, Bulky or Stringy Materials.



If you are interested in grinding jobs of any kind or size, ask for more information at once. Write

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age, and enhanced the prospects for soybeans.

Among the four high-producing states, Illinois, Iowa, and Ohio showed increases over a month ago, but Indiana prospects appeared to have declined by around 58,000 acres.

The Illinois AAA committee estimates that farmers in that state will harvest 3,720,000 acres of soybeans, almost within reach of their 4,000,000-acre goal, and 8 percent over the harvested acreage a year ago.

The Iowa committee estimates a 10 percent increase over last year — 2,219,000 acres compared with a goal of 2,890,000 acres.

Indiana, with a goal of 1,600,000 acres, thinks Hoosier farmers will go over the top with 1,640,000 acres, 12 percent increase over a year ago, but a 58,000-acre decline from last month.

The Ohio committee estimate is close to the goal of 1,500,000 with 1,480,000 acres, an 11 percent advance over 1943.

— s b d —

#### COMMENT

Editor, *The Soybean Digest*:

I have been getting *The Soybean Digest* for some time, and it is a big help to the farmer who raises beans. The pictures in the *Digest* of inoculants don't seem like they could be true. But if a farmer will only try them out, he will find that they will give the same results on his farm.

My experience with soybeans, is that good inoculation is just as important as the seed.

CARL F. CROW,  
Muncie, Ind., R. 1.

## Uses Barrel Inoculator



— Photo Wallaces' Farmer

Fred Hawthorn, Monona County, Iowa, uses a wooden barrel mixer for inoculating soybean seed. The barrel is equipped with a shaft run diagonally through the barrel. A baffle is nailed inside to agitate the seed. Seed boxes on the planter are enlarged with 25 pound grease buckets with six inch holes in the bottoms and clamped on top of seed boxes. Bob Hawthorn is pouring inoculated seed into box.



Processors...



SOYBEAN DIVISION

ARCHER-DANIELS-MIDLAND COMPANY

ROANOKE BUILDING • MINNEAPOLIS, MINN.



## FEEDING



### Cheapest Gains on Meal, Silage

Most economical gains per 100 pounds of feed resulted from a ration of soybean oil meal, corn silage and limestone in a lamb-feeding experiment conducted last fall and winter at the University of Illinois College of Agriculture.

Prof. W. G. Kammlade of the sheep division of the department of animal husbandry said two lots of 50 lambs each made 100-pound gains at the rate of \$11.86 and \$12.16 and returned profits of \$1.58 and \$1.51 respectively on the soybean oil meal, corn silage and limestone diet. They had no shelled corn.

Four other lots were fed shelled corn, the proportion for two of the lots of 50 each being seven times as much corn as soybean oil meal while the proportion for the other two lots was nine times as much corn as soybean oil meal. On the 7 to 1 ratio, the cost of gain per 100 pounds was \$12.35 and \$13.41 and on the 9 to 1 ratio the cost of gain per 100 pounds was \$12.77 and \$12.71. On lot 2, having a feed cost of \$13.41, other factors entered in, these lambs having been shorn while those in all other lots were not.

Profits per lamb were \$1.62 for lot 1, which had a 7 to 1 corn to soybean ratio but was not shorn, \$1.21 on lot 2, and \$1.47 and \$1.58 on lots 3 and 4, which were on the 9 to 1 ratio.

The lambs which had no shelled corn consumed a daily ration of .84 pound of soybean oil meal, 4.02 pounds of corn silage and in the case of lot 5, one-half ounce of limestone and in the case of lot 6, one ounce of limestone. All were on feed 89 days.

Professor Kammlade said the superior gains resulting from corn silage, soybean oil meal and limestone fed to the lambs in lots 5 and 6 are large enough to be significant. Lambs in lots 5 and 6 were fed approximately 80 percent as much soybean oil meal as the lambs in the other four lots were fed corn and soybean oil meal. They were never off feed and ate more silage than the lambs of other lots. They also drank a great deal more water, he said.

### Leafy Matter Improves Meal

Soybean meal can be used as the source of protein in chick rations without the addition of phosphorus if it is fed with unheated leafy material or if access is provided to green grass or other leafy forage on range. This conclusion was reached by H. H. Mitchell and E. P. Singen on the basis of experiments made at the Illinois Agricultural Experiment Station.

It was earlier found that soybean meal was a poor substitute for animal proteins in chick rations unless inorganic phosphorus was added to the ration. It seemed that the chick could not make good use of phosphorus in the soybean meal.

According to Singen and Mitchell, if alfalfa meal made from field-cured alfalfa hay and an adequate source of vitamin D are added to the ration, the chick can make

use of the phosphorus in the soybean meal, thereby curing its fault as a chick feed. The alfalfa or grass provides the enzymes necessary to make the phosphorus usable by the chick.

The enzyme responsible for improving the utilization of phosphorus in seeds (phytase) is present in soybeans but is destroyed by the heat treatment during processing. The enzyme in field-cured alfalfa hay is also destroyed during commercial dehydration, according to Mitchell.

### Vegetable Protein for Swine

A protein supplemental mixture made up of equal parts of soybean and cottonseed meal produced slightly faster gains on pigs than supplemental mixtures composed of varying amounts of low protein meat scraps along with cottonseed and soybean meal. The difference was not significant, but does emphasize the fact that hogs can be grown rapidly and economically without animal protein. This was reported in a summary of experimental work at Feeders Day April 22 at the Oklahoma Experiment Station. See Mimeo Circular 110.

Some other reports made at the Feeders' Day follow:

**Protein Levels for Swine.** — Littermate trios of pigs were fed individually at three protein levels, with the percent of protein of all three being reduced by degrees as the pigs gained weight. The results of these trials, while not conclusive, suggest that, considering both rate and economy of gain, the following levels of crude protein will produce most satisfactory results: Weaning to 50 lbs, 27 percent; 50 to 80 lbs., 24; 80 to 120 lbs., 21; 120 to 165 lbs., 18; and 165 to 225 lbs., 12. — Mimeo. Cir. No. 111.

**Protein Helps Utilize Prairie Hay.** — The digestibility of prairie hay for steers was decidedly improved by addition to the hay of 1 lb. per day of protein meal. Cottonseed, peanut, and soybean meals were about equally effective. Steers lost considerable nitrogen (protein) from their bodies when fed an unsupplemented ration, but stored it when fed any one of the supplements. The results also suggest that any one of the meals fed alone is as efficient a protein supplement as is a combination of the three. — Feeding and Grazing Tests, unnumbered.

**Mineral Supplement With Dry Bluestem and Soybean Cake.** — Providing a mineral supplement for 2-year-old steers wintering on dry Bluestem grass and 2½ pounds of soybean cake increased the winter gain 42½ percent. Twelve cents spent for bonemeal and ground limestone produced 23 pounds more beef per steer. Differences between methods of supplying the mineral were slight. — Feeding and Grazing Tests, unnumbered.

# One Way to Conserve

## SOYBEAN PRODUCTS

27 Conveniently  
Located Offices  
and Factories

BUFFALO  
TOLEDO  
PHILADELPHIA  
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Today, when conservation of vital soybean products is a matter of national concern, you owe it to your fellow countrymen to safeguard your shipments in every way possible.

Take no chances with bags of mediocre quality. Chase commends to you its sturdy Chase Test cotton fabric—a heavy-duty, tight-weave material made to take a lot of buffeting around.

Bags of Chase Test are made in all standard sizes—perfectly printed as you wish. Send for samples.



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### CHASE BAG CO.



# IT PAYS BIG *To Inoculate With* NITRAGIN



- ★ You get up to 50% bigger yields.
- ★ You get more oil per acre.
- ★ You increase protein content of hay and seed.
- ★ You give the crop more vigor to fight weeds.
- ★ You conserve soil fertility.

**I**NOCULATION can go a long way toward helping farmers meet soybean production goals in 1944. It is estimated that less than a third of the crop had the benefit of inoculation in 1943. The remaining two-thirds is probably the acreage that needs it most.

You probably know and follow the best cultural practices. Your neighbors, however, may not be so well informed. Give them a tip, will you? Tell them about inoculation of soybeans, and help them produce a bigger share of the soybeans our country needs in 1944.

NITRAGIN is the oldest, and most widely used brand of soybean inoculant. It contains selected strains of legume bacteria of proved effectiveness. NITRAGIN is sold by leading seed distributors and dealers.

**THE NITRAGIN COMPANY Inc.**

3872 N. Booth St.



Milwaukee 12, Wisconsin



## G. H. BANKS HEADS NEW SOYBEAN DEVELOPMENT

G. H. Banks, formerly in charge of soybean experimental and development work at Purina's Osceola, Arkansas, plant, has been assigned to similar duties at the company's four-crusher unit at Kansas City, construction of which is now under way.

Mr. Banks' new assignment will take him into the counties of western Missouri, eastern Kansas, and southwestern Iowa



G. H. BANKS

where the 4,000 bushels of beans a day must be raised to supply the new processing plant. At present he is contacting farmers, county agents, feed merchants and grain buyers in these sections in an effort to stimulate acreage and to facilitate the proper selection and planting of seed.

It was largely through Banks' effort that the Ral-soy variety of soybean was developed, and subsequently introduced to the farmers of northern Arkansas and southeastern Missouri. High in oil yield, this yellow-variety bean was found particularly adaptable to the counties contiguous to the Osceola plant, and provided Arkansas and Missouri farmers a profitable new crop.

Similar seed research for the Missouri-Kansas-Iowa area indicate the Chief, Patoka and Boone as the varieties most suitable. Banks is meeting with farmers in these sections at a time when excessive spring rains have delayed the planting of oats and considerable flax, and is finding increased interest in soybeans as an addition to crop rotation, with a sure market for beans as provided by the new Kansas City plant.

Banks graduated from the University of Missouri in 1914, and for 11 years had the direction of crop experiments at the University of Arkansas Experimental Farm at Stuttgart. He accepted his soybean development assignment with Purina in 1936, taking charge of the new crushing unit installed at Osceola that year.

The new plant at Kansas City, assigned to Banks, is scheduled for completion by October 1, in time to handle the 1944 crop.

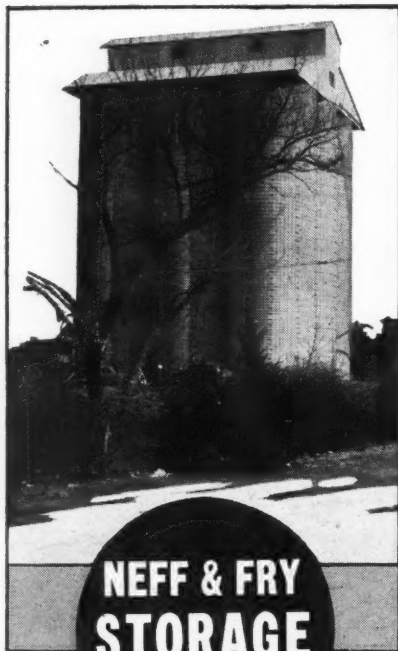
Four presses, each with a daily capacity of 1,000 bushels, are to be installed immediately, with construction allowance for two additional presses as soon as available.

## GROWERS

### Need to Kill Weeds

Weeds in the soybean rows have limited yields in many fields. The correct rate of planting helps to eliminate weeds, thereby contributing to yield.

A good procedure to help insure higher yields of soybeans is to kill just before planting time the weeds that have started. Then, after the beans are up, kill the weeds in the rows before the weeds appear above ground. A harrow, weeder or rotary hoe are good, speedy tools for this job. One of these tools should be used at least once a week on the bean field until the beans are 6 to 8 inches high.



NEFF & FRY  
STORAGE  
BINS

## SOYBEAN STORAGE

Each month the lowly soybean grows in importance—new uses are found, more storage problems arise.

Storage need be no serious problem to those with proper priority rating—or to any other grower or elevator, in post-war days.

Bins of any required diameter or height. Stave or monolithic.

Send for catalog. Plan now so you can build at earliest opportunity.

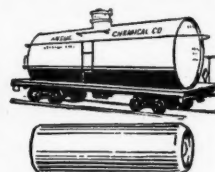
THE NEFF & FRY CO.  
CAMDEN, OHIO



## IF YOU WANT *Better* SOY BEAN PRODUCTS... JUST REMEMBER

- Better proteins are obtained when Ansul Sulfur Dioxide is used in extraction and precipitation.
- Ansul Sulfur Dioxide is a selective solvent for treating soybean oil.
- Bleaching of proteins with Ansul Sulfur Dioxide or hydrosulfites derived from Ansul Sulfur Dioxide improves their color.

**ANSUL\***  
*Sulfur Dioxide*



- Supplied in tank cars, ton drums and 150-lb. cylinders.

**ASK US!** The Ansul Technical Staff will gladly help you work out problems of application and handling of Sulfur Dioxide. Ask us—anytime!

**ANSUL CHEMICAL COMPANY, Marinette, Wisconsin**

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EASTERN OFFICE: PAOLI, PENNSYLVANIA

SBQ-1-44

**TWENTY-NINE YEARS OF KNOWING HOW**



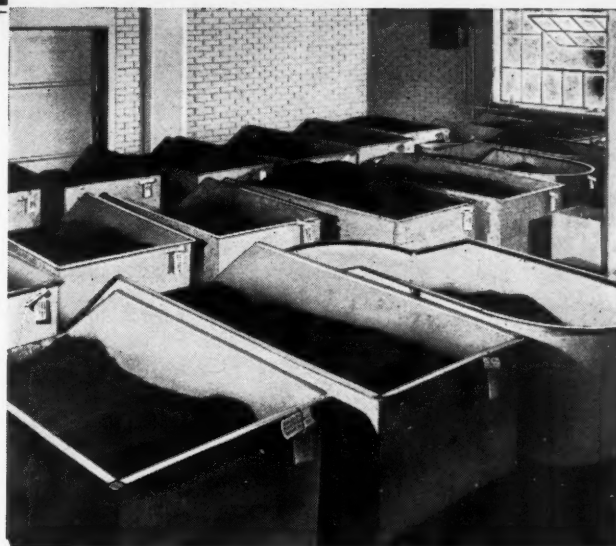
# You have "snowed us under"...

Fixo  
Says:



**with orders for  
NOD-O-GEN  
INOCULATOR**

The 1944 demand for Nod-O-Gen Inoculator for soybeans . . . and for other legumes as well has been tremendous. This has no doubt been due in part to the great patriotic effort of growers to produce the max-

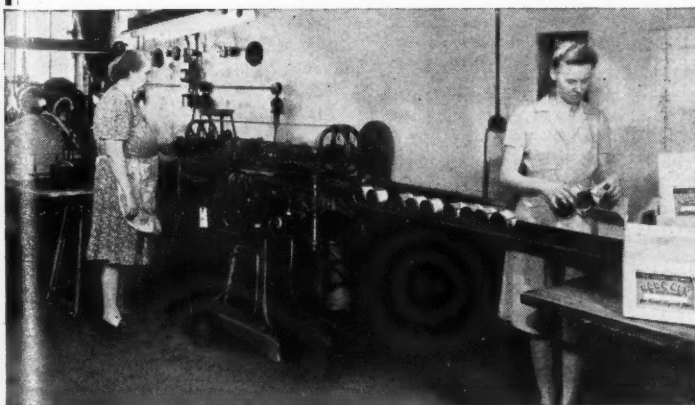


Bins of inoculated humus waiting to be tested before packaging.

imum volume of food for victory. It is also due to a large extent to the growing realization that Nod-O-Gen is a reliable performer in the field . . . a dependable producer of bigger yields of beans at a trifling cost per acre.

Our deliveries of Nod-O-Gen are reasonably prompt . . . despite "A sea of war-born troubles." Quality remains at an all time high.

It still pays to insist on Nod-O-Gen. Place your order now. The chances are ten to one you'll get delivery in ample time for late plantings.



Nod-O-Gen Cans rolling through the labeling machine.

Farm Laboratory Division **THE ALBERT DICKINSON COMPANY** Chicago, 90 Ill. Est. 1854  
SOUTHERN OFFICE AND WAREHOUSE: 218 South President Street, Jackson, Mississippi

## NOD-O-GEN

The Pre-Tested Inoculator  
The Crop and Profit "Pepper Upper"

# --- MARKET STREET ---

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 5c per word per issue. Minimum insertion \$1.00.

**WANTED** — Oil Mill Chemist — technical man familiar with AOAC and AOCS methods for analyzing vegetable oils and meals. Plant is new continuous solvent extraction unit, located Belmond, Iowa. Now engaging personnel for original operating staff. Excellent opportunity for right party to get started with new division under progressive management. General Mills, Inc., Vegetable Oil and Protein Division, Chamber of Commerce Bldg., Minneapolis, Minn.

**FOR SALE:** Used Steel Storage Tanks, 8,000, 10,000, 12,000, 18,000 gal. And other sizes. Stanhope, Wayne, Penna.

**SOYBEAN ENGINEER** — Now available, capable of designing, building and operating mill for the manufacturing of full fat soy flour. WM, care The Soybean Digest, Hudson, Iowa.

## Seed Directory

Quantity for sale and variety are included.

### IOWA

Castana — Fred W. Hawthorn, 1,000 bu. blue tag, certified Richland, germination 92 percent. No crop or weed seeds.

Hudson — Strayer Seed Farms, 2,500 bu. Richland, 250 bu. Kingwa, 250 bu. Bansei, 500 bu. Mukden.

Sac City — F. H. Wilson, 400 bu. certified Richland.

Sac City — Williams Milling Co., 4,000 bu. certified Richland.

Sac City — Hobart Hill, 250 bu. certified Richland, germination 95 pct.

New Hartford — Moore & Good, 2,000 bu. certified Richland, 5,000 bu. uncertified Richland, 2,000 bu. uncertified Habaro.

## Garden Varieties OF Edible Soy Beans FOR SALE

Limited quantities, suitable for seed or processing purposes, from our 1943 crops of Pearl, Anwei, Kirin, Green, and Kanum varieties of edible soy beans, are offered, subject to prior sale, at 7c per lb., packed in 100 lb. bags, FOB Archbold, Ohio. Samples sent on request.

### LA CHOY FOOD PRODUCTS

ARCHBOLD, OHIO

Division of Beatrice Creamery Company

Marcus — R. E. Simonsen, 900 bu. uncertified Richland, from certified seed.

Sanborn — O. J. Bieser, 100 bu. certified Richland, 50 bu. uncertified Mukden, 350 bu. uncertified Richland.

Whiting — Knud Westergaard, 3,000 bu. certified Richland.

Boone — Roscoe Marsden, 250 bu. certified Richland, blue tag, 93 pct. germination.

Hampton — Ralph R. Hurd & Fred Blau, 700 bu. certified Richland.

Sac City — M. R. Clark and W. C. Otto, 300 bu. certified Richland, 98 pct. germination.

Remsen — Frank Lenertz, 900 bu. certified Richland, 500 bu. certified Tama oats, 1,000 bu. uncertified Boone oats.

Hampton — Reuben Burmester, Rt. 3, Box 36, 300 bu. certified Richland.

### INDIANA

Remington — Chester B. Biddle, 1,000 bu. certified Dunfield, 1,500 bu. certified Richland.

Pence — D. L. Martin, 2,800 bu. certified Richland, 700 bu. certified Dunfield, 250 bu. certified Chief.

Windfall — Mitchell Farms, 2,000 bu. certified Richland, purity 999, germination 90.

Noblesville — Conner Prairie Farm, Rt. 5, 2,000 bu. certified Richland, purity 99, germination 92 and 95.

Peru — Richard E. Edwards, P. O. Box 315, 1,300 bu. certified Richland.

Indianapolis 44 — Walter R. Askren, Rt. 10, Box 188, 500 bu. certified Richland.

Leesburg — Ralph Brubaker, 200 bu. certified Earlyana, 300 bu. uncertified Richland.

Windfall — Byron Legg, 1,000 bu. certified Richland, 93 pct. germination, 1/10 pct. mixture.

Ft. Wayne 8 — O. L. Bryant & Son, Rt. 4, 500 bu. certified Richland, 800 bu. certified Dunfield.

Indianapolis 44 — Phillip W. Irwin, Rt. 19, Box 676, 2,000 bu. certified Richland.

Greenfield — Raymond E. Roney, 15 bu. uncertified Funk Delicious, 99 pct. varietal purity; 100 bu. certified Patoka, 99.6 pct. varietal purity; 200 bu. certified Richland, 99.95 pct. varietal purity.

Evansville — Henry L. Hahn, Rt. 2, 2,000 bu. certified Gibson.

Muncie — O. C. Russell & Son, Rt. 1, 500 bu. certified Richland, 200 bu. certified Dunfield, 200 bu. certified Kingwa (black hay bean), all high in varietal purity.

Crawfordsville — Walter J. Harper Seed Co., Rt. 1, 200 bu. certified Richland, 200 bu. certified Mandell.

Seymour — T. Volney Carter, Rt. 2, 400 bu. certified Chief.

Swayzee — John W. Whybrew, Rt. 1, 800 bu. certified Richland.

Milford — Lee R. Cory, Rt. 1, 700 bu. certified Mandell.

Alexandria — Eugene Gwaltney, Rt. 1, 400 bu. certified Richland.

Knightstown — Ray Cannell, Hackleman Farms, 1,200 bu. certified Chief, 500 bu. uncertified Richland.

Princeton — Princeton Farms, 700 bu. certified Patoka, 700 bu. certified Gibson, 600 bu. uncertified Macoupin.

Kouts — Wm. H. Olsen, Rt. 1, 1,000 bu. uncertified Richland.

Hartford City — D. M. Langdon Sons, Rt. 1, 800 bu. certified Richland.

Williamsport — Floyd Martin, 600 bu. certified Richland, 400 bu. certified Dunfield.

Lapel — Omar J. Sears & Sons, Rt. 1, 700 bu. certified Richland.

### ILLINOIS

Champaign — Seeber Bros., Rt. 3, 6,000 bu. certified Chief; 1,000 bu. uncertified Richland; 1,500 bu. uncertified Mt. Carmel.

Normal — H. L. Stiegelmeier, 706 Normal Ave., 1,200 bu. certified Richland.

Atwood — John H. Livengood, Sr., 600 bu. certified Dunfield, 100 bu. certified Patoka, 300 bu. certified Richland.

Mason City — Ainsworth Seed Co., 1,000 bu. certified Chief, 500 bu. certified Richland, 2,500 bu. uncertified Illini.

Cantrall — C. E. Canterbury, 500 bu. Illini, 2,500 bu. certified Chief.

Ladd — Martin Manning, 250 bu. certified Richland.

Pittsfield — K. S. Kern, 225 bu. certified Chief; 175 bu. uncertified Chief.

Compton — Clarence Ackland, 1,600 bu. certified early Richland, field purity 99.9 pct.

Kansas — Adin Baber, 400 bu. certified Chief.

San Jose — Kelly Seed Co., 20,000 bu. uncertified Illini, 2,200 bu. certified Chief, 1,500 bu. uncertified Chief, 11,500 bu. uncertified Richland, 800 bu. certified Richland.

Rantoul — Harold Zehr, Rt. 1, 500 bu. certified Illini.

Champaign — Maxwell Farms, Rt. 2, 800 bu. certified Chief.

Sidney — Marshall Butzow, 1,000 bu. certified Chief, 450 bu. certified Patoka, 725 bu. uncertified Richland.

Manhattan — Lawrence Meyer, Rt. 1, 1,200 bu. certified Richland.

Minooka — William Rushton, Rt. 2, 200 bu. certified Richland.

Lostant — Gentert Farms, 600 bu. certified Illini. Write to Carl Smaling on Farm No. 5, or John Janusick on Farm No. 7.

### OHIO

Maumee — W. N. Woods & Son, Monclova Rd., 300 bu. certified Richland, 500 bu. uncertified Richland.

Franklin — Carl J. Miller & Son, Rt. 1, 150 bu. certified Dunfield.

Delphos — Lawrence W. Adam, Rt. 1, 90 bu. certified Dunfield.

Ada — J. R. Spar, 200 bu. certified Dunfield.

New Weston — John N. Kramer & Sons, Rt. 1, 150 bu. registered Scioto.

Huron — Fries Farms, 500 bu. registered Richland, 300 bu. registered Mingo, 165 bu. uncertified Mingo.

Avery — J. Schlessman & Sons, 200 bu. registered Richland, 200 bu. registered Mingo, 500 bu. certified Richland, 500 bu. uncertified Mingo, 200 bu. uncertified Manchu.

Fostoria — K. C. Treier, Rt. 1, 200 bu. registered Richland, 150 bu. uncertified Richland.

Bloomdale — W. A. Wasson & Son, 200 bu. certified Richland, 125 bu. uncertified Richland.

Fostoria — Harold E. Ecker, Rt. 4, 400 bu. certified Richland, 500 bu. certified Mingo, 600 bu. Wisconsin No. 3.

Amanda — Herbert N. Ruff, 200 bu. registered and certified Mingo.

### MISSOURI

Hayti — R. F. Greenwell, Box 284, 200 bu. certified Chief, 800 bu. certified Ralsoy.

Carrollton — Roy H. Monier, 100 bu. Easycook.

### MINNESOTA

Wood Lake — Neumann's Seeds & Service, John A. Neumann, Mgr., 30 bu. early Minnesota Manchu, Minn. Reg. No. 1 blue tag.

Minneapolis 13 — Twin City Seed Co., 130 2nd St. N. E., carries Pridesoy, Kabott, Minsoy, Mandarin, Habaro, Wis. Manchu No. 606, Minnesota Manchu, New Improved Wis. No. 3 Manchu, and Richland.

### NEW JERSEY

Ringoes — W. Chmielewski, Edible varieties available: Bansei, Etum, Imperial, Funk Delicious, Easycook and Giant Green.



## IN THE MARKETS

● **SOYBEAN STOCKS.** Soybeans amounting to 110,128,000 bushels were stored on April 1, 1944, in all storage positions, both on and off farms, according to the quarterly report of the Crop Reporting Board. Included in this total are 40,428,000 bushels on farms and 17,533,000 bushels in interior mills, elevators, warehouses and other establishments, as estimated by the Crop Reporting Board, 35,203,000 bushels held at processing plants, as enumerated by the Bureau of Census, 12,790,000 bushels at the 46 terminal markets, according to reports of the War Food Administration, and 4,174,000 bushels reported by Commodity Credit Corporation as stored in their own steel and wooden bins. Stocks of soybeans in these same positions a year earlier totaled 115,957,000 bushels. No information is available as to the quality of soybeans for seed in the hands of seed houses and local dealers.

A total of 43,273,000 bushels of soybeans were crushed during the 3-months period January 1 to March 31, 1944, according to reports of the Bureau of the Census. This quantity exceeded crushings of 37,574,000 bushels in the same quarter of 1943 by about 15 percent. In each month of this 1944 quarter the quantity of soybeans crushed for oil showed an increase over the same month of 1943. Current stocks included some of the quantity required for seed for the 1944 crop and some soybeans ultimately to be used for feed on farms. From April 1 to October 1, 1943 oil seed processors crushed approximately 70 million bushels of soybeans. Current stocks indicate that processing of soybeans can be continued at a rate at least as high as last year, when the year end (Oct. 1) stocks amounted to \$12,500,000 bushels.

Stocks of Soybeans, April 1, 1944, with Comparisons			
Position	April 1, 1943	April 1, 1944	
	Thousand Bushels		
On Farms .....	54,350	40,428	
Int. M. E. & W. ....	17,094	17,533	
Processing Plants .....	28,326	35,203	
Terminal Markets .....	3,187	12,790	
Steel and Wooden Bins.....	13,000	4,174	
<b>TOTAL ALL POSITIONS.....</b>	<b>115,957</b>	<b>110,128</b>	

● **WAR FOOD ADMINISTRATION PURCHASES.** Report of agricultural commodities for Lend-Lease, territorial emergency, Red Cross and other purposes, in pounds.

Commodity	February	Jan. 1, Thr.
Oleomargarine .....	6,730,214	14,692,165
Shortening .....	495,867	1,827,807
Vegetable Oils .....	1,484,126	18,587,123
Soya Flour and Grits.....	23,629,900	38,797,650
Soybeans .....	720,000	3,849,600

### Cash Sales

The War Food Administration delivers food to a number of claimant groups, on a cash sale basis. Included are the following: Army, Navy, Marine Corps, American Red Cross, Veterans Administration, the Department of the Interior Alaska, Coordinator of Inter-American Affairs, U. S. Naval Academy, War Shipping Administration, British Colony Mission, Netherlands Purchasing Commission, Greek War Relief, French National Committee, Coordinated Council of Friends Relief Society, the Rubber Reserve, and sales to other miscellaneous claimants. These cash sales come under the War Food Administration's allocation procedure, which divides total food supplies of the United States among civilians, armed forces, Allies and other groups.

Oleomargarine .....	1,268,229	2,370,672
Shortening .....	225,688	366,338
Vegetable Oil .....	421,680	478,220
Soybean Meal .....	168,000	168,000
Soybean Oil .....	92,000	92,000

● **ARGENTINA OIL EXPORTS.** The Argentine Government's prohibition on exports of edible vegetable oilseeds and their corresponding oils was lifted on April 24, according to a report to the office of Foreign Agricultural Relations. The prohibition was imposed on May 6, 1943, for sunflowerseed and oil and on June 6 for peanuts, cottonseed and rapeseed and their corresponding oils, because of poor oilseed crops that year and fear of a shortage in supplies of edible vegetable oils for domestic requirements.

The four oilseeds referred to supply the raw materials for virtually all of the edible vegetable oil produced in Argentina.

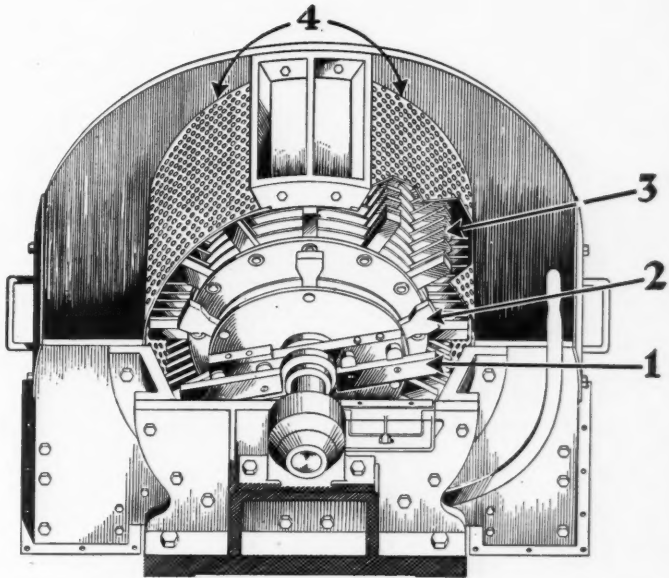
Removal of the export embargo at this time indicates that 1944 oilseed crops are not only large enough to meet all domestic requirements for edible vegetable oils but also to allow a surplus for export either in the form of seed or oil.

Only in recent years has the edible vegetable oil industry in Argentina shifted to an export basis. In the late 1920's domestic production of such oils supplied less than a third of the country's total requirements of around 58,000 tons annually. The balance had to be imported. By 1942 domestic requirements had increased to 100,000 tons, imports had become insignificant and the country was exporting in excess of 95,000 tons annually.

Sunflowerseed is the chief raw material from which Argentina produces edible vegetable oils.

● **CANADIAN ACREAGE GOALS.** Canadian flaxseed and soybean acreage goals for 1944 have been revised upward, according to an announcement released by the Dominion Department of Agriculture. Flaxseed is now established at 2,800,000 acres, an increase of 48 percent over the objective set by the December conference. Soybean acreage

# PRATER Dual Screens and Dual Drums



**T**HE dual screens of the Prater Gradual Reduction Grinder definitely increase screening area from the usual 45% of the ordinary mill to 70% of grinding area. Breaking (1) and crushing (2) stages are completed in the primary drum.

The crushed material is fed around the entire periphery of the rotor to the final sizing blades of main grinding drum (3).

The particle size is such that the major part of the area is devoted to screening. Because the dual screens (4) are away from preliminary breaking and crushing they can be designed for true screening efficiency, as there are no large and heavy particles hammering the dual screens. This hammering distorts (in the usual mill) the screens and lowers screening efficiency still further. The immediate value of the 70% screening area is immediately apparent — but there are many other factors in this principle of dual screens and dual drums that are worthy of the study of the man interested in the grinding of Soya products. Write for information.

**PRATER PULVERIZER COMPANY,**  
1825 S. 55th Ave., Chicago, Ill.

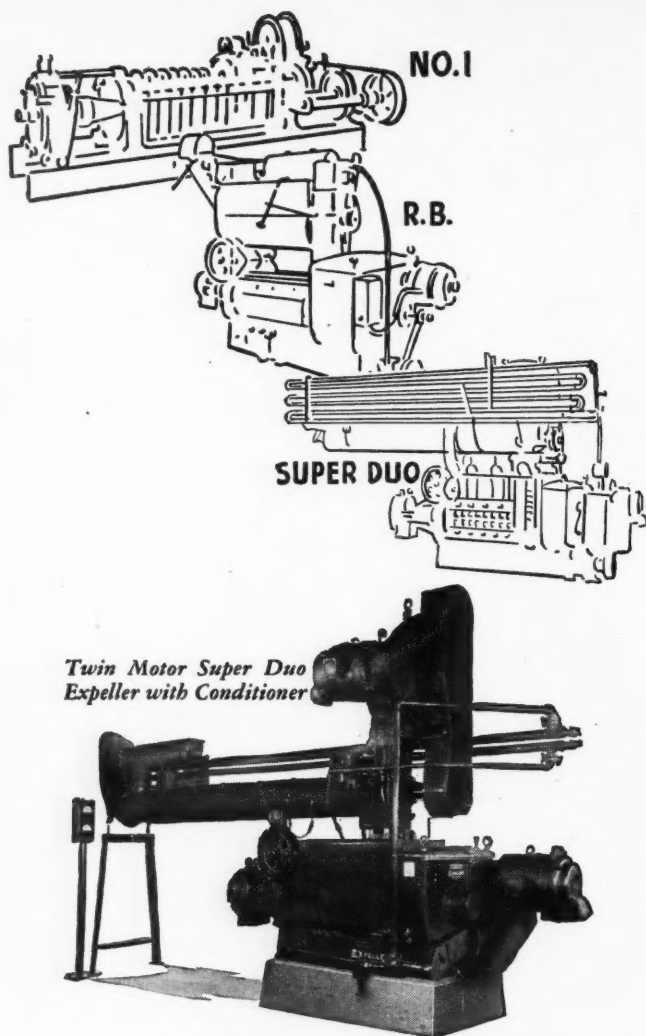
Please send me information on  
Dual Screen Grinders covering the  
Soybean industry.

Name.....

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CHICAGO · ILLINOIS



## Bring your PRESSING EQUIPMENT UP-TO-DATE

About 40 years ago, the old No. 1 Expeller came into being. In succeeding years, it was followed by the RB, the Duo and the Super Duo. Each was the best in its day, and was succeeded by a more efficient machine until today it's the new Twin-Motor Super Duo Expeller . . . If you have one of these older Expellers, or other less efficient pressing equipment, consider bringing your pressroom up-to-date for postwar competition with a new ANDERSON TWIN-MOTOR SUPER DUO EXPELLER, capable of handling, in normal operation, 18-20 short tons with 3.8-4.3% cake—or, with high speed operation, 27-30 tons with 4.2-4.5% cake.

*Ask an Expeller Engineer to give you complete data.*

**THE V. D. ANDERSON COMPANY**  
1935 WEST 96th STREET • CLEVELAND 2, OHIO

has been raised from 55,100 to 90,000 acres. Sunflower seed and rapeseed remain unchanged at 50,000 and 10,000 acres respectively.

As there are no quota restrictions on flaxseed in Canada, deliveries have been very satisfactory. By February 11, 1944, approximately 72 percent of the 1943 seed had been marketed. Crushing capacity for oilseeds has been considerably expanded since 1941, and further increases are expected in 1944. A recent survey indicates that a capacity of 6,500,000 bushels will be available soon, chiefly in eastern Canada, although important sections of the industry are also located in Manitoba, Alberta, and British Columbia. The increased crushings will provide larger quantities of linseed cake and meal needed to supplement live-stock feed.

● **SOYBEAN INSPECTIONS.** Inspected receipts of soybeans in March showed considerable increase over those for February, with continued improvement in quality. March inspections totaled 5,066 cars compared with 3,475 cars in February. Inspected receipts for the period from October to March this season were 70,096 cars compared with 50,791 cars for the same period last season.

The quality of soybeans inspected in March showed continued improvement, 92 percent grading No. 2 or better compared with 87 percent the preceding month. Eight percent fell in the lower grades in March compared with 13 percent in February and 26 percent in January. Eighty-seven percent graded No. 2 or better from October through March this season compared with 33 percent for the corresponding months last year.

Inspections of soybeans in March include truck receipts equivalent to about 25 cars.

● **OILFEEDS.** Oilfeeds situation continues practically unchanged with the offerings of soybean oil meal slightly increased. Some of the mills are booking orders for nearby deliveries as well as up through July. Supplies of soybeans seem ample and apparently enough to run through to the new crop. Linseed oil meal, on the other hand, is in rather light supply with the output slightly reduced, and some of the large crushers are about two weeks behind on their orders. Some concern is in evidence at the local crushers regarding ample supplies of flax, as a large part of the Canadian importations are being crushed on the East Coast and flax arriving from Argentina going to the crushers in California.

● **STANDARD SHORTENING SHIPMENTS.** By members of Institute of Shortening Mfgs., Inc.

Week ending April 8, lbs.	4,701,323
Week ending April 15	4,874,304
Week ending April 22	5,533,544
Week ending April 29	6,184,070

● **STOCKS.** War Food Administration reported April 12, 12,214,457 bu. soybeans in commercial storage compared with 3,172,000 same date a year ago; April 18, 11,504,929 compared with 3,170,000; April 25, 11,292,025 compared with 2,951,000; May 2, 10,784,116 compared with 3,024,000.

## GOVERNMENT ORDERS

● **ALLOCATION OF EDIBLE FATS.** The War Food Administration has increased slightly the civilian allocation of edible fats and oils for April, May and June, compared with the previous 3 months.

Civilians have been allocated 13 million pounds more shortening, cooking and salad oils this quarter than last, 22 million pounds more butter, 17 million pounds less margarine (fat content) and about the same quantity of lard as was originally allocated for the January, February and March quarter. An additional 50 million pounds of lard were allocated to civilians in March to relieve storage facilities.

The total allocation for the entire group is 18 million pounds more than for the last calendar quarter — 1,430,000,000 pounds this quarter, compared with 1,412,000,000 pounds last quarter.

Since butter is seasonally in better supply, WFA has reduced the margarine allocation to conserve vegetable oils for future needs. The margarine allocation was increased last quarter because less butter was seasonally available.

The April, May and June allocations are: Shortening and oils, 440 million pounds this quarter compared with 427 million pounds last quarter; lard, 455 million pounds this quarter and last; butter, 432 million pounds compared with 410 million pounds last quarter; and margarine, 103 million pounds (fat content) compared with 120 million pounds last quarter.

● **EDIBLE OILS POINT FREE.** Price Administrator Chester Bowles has announced that shortening and rationed salad and cooking oils have been made point free. They were reduced to zero point value. For over a year — since March 29 of last year — housewives and other users have been surrendering points in the purchase of these items.

"Current available supplies of lard are at a high level," Mr. Bowles said, "and we have enough shortening and salad and cooking oils on hand to meet civilian demands. Thus, there is no need to require point currency as a means of controlling movement of these commodities. The Office of Price Administration in this move is acting on the principle of 'rationing only when necessary to achieve equitable distribution of a limited supply.'"

Lard, which can be used interchangeably with oils for cooking, it was pointed out, was made point free March 3 because of marked improvement in supplies. The run of hogs to market continues heavy, OPA said, and ample lard stocks for cooking was a factor in the reducing of rationed oils to zero point value.